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College and Career Ready through Personalized Learning: Business and Industry Perspective of the Don Tyson School of Innovation

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College and Career Ready through Personalized Learning: Business and Industry Perspective of the Don Tyson School of Innovation

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by

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Abstract

This qualitative research study describes perceptions of Northwest Arkansas' business, industry and post-secondary institutions as to the Don Tyson School of Innovation (DTSOI) and its ability to prepare students for Northwest Arkansas' college and career needs. Designated as one of the first schools of innovation in Arkansas through ACT 601 of 2013 by the Arkansas Department of Education (ADE), the DTSOI employs Science, Technology, Engineering, and Mathematics (STEM) in every aspect of curriculum. The DTSOI represents the first school in Arkansas to hold the distinction of holding both school of innovation status as well as being a public, district-conversion charter school. This model is the first in Arkansas to embrace a student-centered, time flexible, competency-based, blended, personalized learning experience. Students at SOI have the opportunity to attain their high school diplomas while also acquiring professional industry credentials, internship experience, early college experience, and even an Associate's Degree. In addition to new curricular and instructional models, the DTSOI offers students deeper experiences in developing "soft or executive skills" deemed by Northwest Arkansas business, industry and post-secondary members as valuable employment traits. Created with combined effort from post-secondary educational partners, local businesses, and industry, DTSOI includes executive skills in every aspect of curriculum to promote student career readiness. Currently in the fourth year of operation (2017-2018), the program is predicated on being agile enough to both prepare students to excel in post-secondary education and career readiness, adapting as industry needs change. In this study, stakeholders were asked whether they see evidence of SOI's success, based on their knowledge and perception of the school programs and interactions with DTSOI students.

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I would like to take this opportunity to publicly thank my long-term advisor, friend, and mentor, Dr. Carleton Holt. He has helped me throughout my educational studies from the beginning to my dissertation's completion. Dr. Holt, truly, thank you for your patience, guidance and certainly, your leadership. Thank you for your leadership throughout this program, and your commitment to helping me complete this important work. I will forever be grateful, and in your debt. Further, I am grateful to my dissertation committee members, Dr. Michael Miller and Dr. Kara Lasater, for their guidance, expertise, and time to help showcase the hard work of so many, into the professional field. To the remainder of my doctoral program professors: Dr. Ed Bengtson, Dr. Paul Hewitt and Dr. John Pijanowski, I extend my sincere appreciation for the opportunity to learn from and collaborate with such a dedicated group of professionals.

A very special acknowledgement is made to my critical friends and team members in the Springdale administrative team whom have been a consistent driving force in pushing me forward. A very special thank you to Drs. Megan Slocum, Jared Cleveland and Kathy Hall, who listened to my endless questions, helped me critique, encouraged, and pushed me when I needed it most. I also want to acknowledge my lifelong mentor, coach, and leader; my father, Dr. Jim Rollins for his steady support, and belief in the creation of the School of Innovation's learning model. Thank you for keeping our daily focus on truly teaching, and reaching them all. "All means All."

To the assistant administrators, teachers and students of the Don Tyson School of Innovation, I am forever grateful and humbled by your work, and for the eagerness and support of the Springdale community in developing a new learning option for our students.

Dedication

I dedicate this dissertation to my wife, Paige Rollins and our children Kinley, Jacob and Adalynn Rollins. To each of you, thank you for your love, support, and patience throughout my work in this doctoral program; I look forward to seeing more of each of you and know that I couldn't have done this without you.

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My sincere gratitude will be forever given for the incredible support, shared strength and leadership of my administrative team and the Don Tyson School of Innovation, and to our entire instructional team. Without each of you, this program wouldn't exist. I owe the success of this school and its programs to each of you and your dedication. To our students, and to our community, I truly appreciate, and thank you all. I realize that I could never appropriately say thank you enough, but to each of you, thank you for all that you do.

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To each of you, I am blessed to have such an outstanding circle of friends, colleagues, and family- I thank you all for what you do.

Joe Rollins

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Chapter One

Organization of the Chapter

The introduction and background for the study begins in Chapter 1. Ensuing is the statement of the problem, the purpose of the study, and the significance of the study. The primary research questions follow. The theoretical framework describes the qualitative approach of case study used as the research method for this study. In the conceptual design section, I introduce and explain the definition, the policy, the procedures, and components necessary to achieve and implement a personalized learning model for students and its relevance to this study. Subsequently, an explanation of theoretical sensitivity detailing professional experience, personal experience, knowledge of the research, and analytic rigor follows. For the purpose of clarifying what this study is and is not, the parameters of the study are denoted, definition of terms are operationally defined, and limitations of the study are discussed.

Introduction

Employers in Northwest Arkansas want to hire employees who are prepared academically for the challenges of the workplace and have the 21st-Century skills to perform in the professional environment. According to Mr. Mike Harvey, Chief Operations Officer for the Northwest Arkansas Council (2016), employers in Northwest Arkansas are struggling to find enough qualified candidates to fill positions. A Chronicle of Higher Education report (2013) states that public colleges and universities in Arkansas only graduate 20.6% of attending students within a 4-year period, and 39.7% after 6 years, compared to a national average of 33.3% within a 4 year period and 57.6% after 6 years. This percentage of graduates from 4-year public colleges and universities places Arkansas only above Alaska, and the District of Columbia in U.S. graduation rates within the expected timelines.

Given the ongoing changes in the workplace and the world of work, educators must find new instructional practices to effectively engage students in learning. Students need the opportunities to develop ownership of the learning process and attain college and career skills so that the increasingly wide education-to-employment gap they experience is reversed. This gap is the result of a mismatch between skills required to attain a high school diploma and those needed from Northwest Arkansas employers and post-secondary institutions. The skills that are lacking, according to consensus by the Northwest Arkansas Council include soft skills like integrity and dependability as well as employable skills such as teamwork, professionalism, customer service, and communication.

According to Lasse (2012), a competency-based, self-directed, skills management system enables employees to create personalized learning plans to develop the skills necessary to achieve corporate goals. In a time where schools and industry are collaborating, educators could recruit industry strategies to provide for the needs of today's classrooms and learners. In this study, regional employers, and post-secondary leaders offer their perceptions of DTSOI students' academic/college/career readiness through surveys and semi-structured interviews.

Background and Context of the Study

The Springdale School District has been an advocate for personalized learning for the past ten years, proving itself as a leader in the state of Arkansas and receiving national recognition for work in the personalization of learning (Jones, 2013). The Springdale School District is the second largest public school district in the state of Arkansas with over 23,000 students in Pre-K through 12th grades. In addition, it has been one of the fastest growing districts in the state for the last twenty years. The motto driving district innovation is "Teach Them All, Learning for All".

The commitment to career readiness established the Springdale Public School district as a national leader in high school academy models (Jones, 2013). The district has received recognition from The National Career Academy Coalition (NCAC) and the Arkansas Department of Education for quality academy programs. The academy programs provide applied personalized learning with respect to specific career cluster pathways, including embracing the diverse and rapidly changing demographics to create career and college opportunities for all students. The total enrollment of the Springdale School district has grown from an overall district enrollment of 10,703 in 1999 to 21,017 students enrolled for the 2016-2017 school year (Springdale Public Schools website). In the process, Springdale has become a richly diverse community.

As students graduate from the Springdale School district, it is certainly a desired outcome for these graduates either to continue their education at the post-secondary level, or to be an employable member of the community in any of Northwest Arkansas' employment opportunities. Regardless of student diversity or demography, Northwest Arkansas' business, industry and post-secondary institutions express the need for similar traits and behaviors as they pertain to potential college students or employees. Currently, each of these respective entities cite difficulty in finding sufficient candidates who display these traits. As the Springdale School District continues to grow and meet its growing business, industry and post-secondary community's needs, district leaders adopted the phrase "All means All". This mantra applies to all students, their needs and their success in life after high school graduation. This effort includes taking into account district growth, diversity and assisting this highly diverse and growing student population on a personal level to pursue their college and career goals. Table 1 illustrates comparative enrollment and diversity within the Springdale School district from 1999 to 2016.

Table 1

Springdale School District Enrollment and Demographic Information for 1999 – 2016

District Demographic Information 1999			**District Demographic Information 2016**		
Ethnicity	Enrollment	Enrollment %	**Ethnicity**	Enrollment	Enrollment %
Asian/ Pacific Islander	441	4.12%	**Asian**	384	1.82%
Black	92	0.86%	**Black**	502	2.39%
Hispanic	1691	15.8%	**Hispanic**	9,820	46.72%
Indian	52	0.49%	**Native American Indian**	115	0.55%
White	8,427	78.73%	**White**	7,388	35.15%
			Pacific Islander	2,533	12.05%
			Two or More	275	1.31%
Total	10,703		**Total**	21,017	
District Free/ Reduced Lunch 34.78%			**District Free /Reduced Lunch 72%**		

(Springdale Public Schools, 2017)

To better address the needs of all learners, Springdale School District teaching methods are shifting to focus on engaging students in ways that inspire learning. The district is continuously refining practices and approaches that foster rigorous learning experiences and meet the needs of diverse students. Regardless of the significant demographic changes, the commitment to teach them all and ensure learning for all has remained constant.

The commitment to teach all students and support them in their attainment of rigorous, complete, and effective learning led the Springdale Public School district to work with the Center for Secondary School Redesign. This partnership focused on identifying key projects that could move the district forward in personalizing the current instructional model, strengthening

the educational experience for all, and serving as a model for other districts. Eleven essential projects were identified: 1) waivers from traditional seat time, 2) traditional bell schedules, 3) enhancement of advisory programs, 4) the creation of personal learning plans, 5) student led conferences, 6) multiple pathways to graduation, 7) centralized early learning center, 8) technology acquisition and integration, 9) professional development, 10) parent academy, and 11) strengthening professional learning communities and educator evaluation and coaching.

The Springdale School District submitted a Race to the Top District application based on the above project areas, and was awarded the highest points on the grant rubric. As the top recipient of the Race to the Top District (RTTD) grant, among hundreds of competitors, the district received over $25M in funding. A portion of the award was designated for the district's implementation of personalizing learning and creating multiple pathways to graduation (Jones, 2013). Another part of the funding paid to purchase chrome books for every student in the district. Finally, creation of the Don Tyson School of Innovation, supported by part of the grant, provided a physical location where all these ambitious changes could implemented and tested.

Statement of the Problem

Northwest Arkansas employers want to hire people with 21st-century skills, but they cannot find enough qualified candidates. Colleges and universities in Arkansas struggle to graduate students on time. Growing concern within Northwest Arkansas business community regarding the lack of suitable employees motivated local and regional businesses and post-secondary institutions to be willing partners with the Springdale school district in their efforts to rectify the situation. The focus was on bridging the gap between what a K-12 education typically provides an individual student and student’s actual ability to achieve college and career goals.

The creation of the Don Tyson School of Innovation, a campus charged with the personalization of instruction, emphasis in real-world skill development, early college experience, career credentials and hands-on opportunities in the field, became part of the solution. Through the development phase, regional business, industry and post-secondary partners were included to ensure that programs would include regionally relevant career and technical programs as well as early college exposure. These pathways and college programs are detailed in Appendixes B and C.

Educators know that a one-size-fits-all approach to learning does not lead to the desired level of classroom engagement, and teachers continually attempt to modify and personalize within the constraints of the traditional classroom environment. Teachers regularly attempt to incorporate 21st century instructional techniques and tools as add-ons to the teacher-centered 19th century model in classrooms not much different from their 19th century counterparts. As a result, the majority of the curriculum is textbook based, and, despite best intentions, most students still learn the same thing in the same way at the same time (Demski, 2012).

In an interview conducted by Education World, it was stated that in order to meet today's college and career readiness needs, traditional teacher-centric school environments must be personalized for each learner's academic goals and career aspirations. Such personalized learning environments can adapt to local employment needs, desired executive skill sets, and will foster deeper partnerships between schools, postsecondary institutions, and employers. Jobs in today's workplace require innovation, creativity, and the agility to not only complete a task, but do so in multiple ways. Students need to experience real world connections through education if they are to be qualified for jobs today (Caron, 2011).

Purpose of the Study

The purpose of this study was to describe the college and career readiness of the Don Tyson School of Innovation students as perceived by members of Northwest Arkansas' business, industry and post-secondary institutions. Through surveys and semi-structured interviews with business and industry partners and post-secondary institutions, stakeholders were asked to describe how they viewed the students and whether they thought the Don Tyson School of Innovation's approach was effective in preparing students in career and college readiness. Observer field notes further capture student-adult interactions and experiences.

A history of the development of personalized learning practices and current college and workforce needs in Northwest Arkansas is provided. Business community perceptions of student preparedness were gathered through surveys, interviews.

Significance of Study

This study highlights the perceptions of stakeholders in the business community and post-secondary institutions of students who have participated in a newly developed public school model in Northwest Arkansas. This study's findings may bring new understanding of what personalized learning can look like and how it can better prepare students with honed college- and career-readiness skills that will dovetail with expectations of colleges and needs of local businesses. Further, this study's findings may provide a potential model for the development of personalized education for others to follow.

Much of the literature presents personalized learning as heavily dependent on technology integration as a means of personalization. While technology use is a critical tool in the personalization process, it does not alone represent personalized learning. True student engagement and ownership of the learning process involves far more, most notably, changes to the curriculum, the teaching and learning processes, and diversifying the pathways for student

success. All the while, rigor, relevance and relationships should be at the forefront of the learning process. The outcomes of this study could help direct the personalization process.

The concept of personalization of teaching and learning is not new. Educational practices and terms like individualized learning, differentiated learning, and individualized learning plans have been a part of the educational system for several years (McLester, 2011). However, the key difference between those concepts and personalized learning is personalized learning puts the student at its center (McLester, 2011). The concepts of student ownership of the learning process can be closely related to beliefs indicated in the Constructivist Theory of education. Although the roots of constructivism are most often attributed to the work of Jean Piaget, constructivist tenets emerged much earlier in history as seen in the writings of Giambattista Vico, who declared in 1710, "The human mind can know only what the human mind has made" (von Glasersfeld, 1995, p. 21). From that point forward, constructivism has emerged as one of the greatest influences on the practice of education in the last twenty-five years (Powell, Farrar & Cohen, 1985).

Lumpkin (2012) notes that a personalized education utilizes visual, auditory and tactile learning, life experience application and relevance, cross-curricular integration, and collaboration between schools and community. He asserts that personalized learning is highly relational and should provide the most appropriate educational opportunities for each child. Additionally, a rigorous high school curriculum should include higher expectations for all students, support for low-performing students, and extended learning opportunities that require completion of a college or work-ready curriculum in order to graduate from high school. These components require a shift in the educational process and the teachers and partners that serve it. The Don Tyson School of Innovation represents a significant curriculum and instructional shift in the field of public education, allowing for schools and external partners to work collaboratively in

creating multiple pathways toward graduation, student ownership, success, and growth toward individual college and career aspirations.

Northwest Arkansas employer data and National Bureau of Labor and Statistics findings highlight the job vacancies in business and industry that need to be filled by qualified applicants. Students are not graduating from high school equipped to fill positions in the workplace even after multiple education reform efforts, according to employers across the country. Colleges and universities in Arkansas have difficulty in getting students, even though enrolled in the requisite areas of study to fill these vacancies, to graduate on time. The personalized learning approach from DTSOI is designed to prepare students who can enter college or job training with the requisite academic and executive skills that will provide the core knowledge, perseverance, and resilience necessary to succeed.

To evaluate student achievement in the personalized learning environment provided by SOI, this study examines external partner survey, semi-structured interview responses, observational notes and reaction journaling to describe perceptions regarding student college and career readiness because of their participation in this program. Surveys and semi-structured interviews from stakeholders provided perceptions of student preparedness for college and readiness to join the ranks of the NWA workforce in areas of need.

According to Taylor (2016) even though much theory related to personalized learning exists, very few relevant peer-reviewed studies published in the literature. The practices at SOI are designed to hone skills demanded by Northwest Arkansas' post-secondary institutions and workforce with consistent reinforcement pertinent to each student in every class. Equally as important, according to the DTSOI intended design, the personalized learning structures in place were created to enable a students to internalize the skills needed to be lifelong learners, effectively creating a person that is able to meet the needs of life, employment, and college

success. This study can potentially provide insight into the connections between K-12 education and business and industry perceptions of student development. Additionally, the outcomes of this study could potentially provide a model for the future development of personalized learning models, workforce development and college preparatory programs.

The Northwest Arkansas Council states that Northwest Arkansas has a diverse, growing workforce totaling over 250,000 people. A large regional concentration of corporate headquarters has attracted affiliated workers and offers an employment opportunity rate nearly seven times higher than the national average. Over 30,000 college students attend universities and colleges in Northwest Arkansas, hypothetically giving companies access to a talent-rich pipeline of employees; however, regional business and industry partners cite significant difficulty in filling vacant positions with qualified employees. The needs articulated by Northwest Arkansas Business and post-secondary program representatives will be identified, allowing the DTSOI to develop and modify current practices to be responsive and to direct personalization efforts toward fitting students with appropriate knowledge and employable skills.

Northwest Arkansas regional employers express a desire to hire individuals who possess professional/executive skill sets as well as knowledge and academic skills. A personalized learning model, in conjunction with student ownership of the learning experience, real world experience integration, and the development of executive skills with repeated practice could equip students to be career- or college-ready applicants, who are highly sought after by employers.

This study could provide business, industry and post-secondary institutions' perceptions of the impact of personalized learning as it pertains to college and career readiness. Further, this study's findings could provide a potential personalized learning model for others to adopt, further develop, or study for implementations within the field of education. This study's findings

could describe needed connections between K-12 education and the real-world environment to which we send our students after graduation. Not unlike business, industry and post-secondary institutions, educators also have a customer; our students, families, and ultimately, the real world. This study's findings provide the perceptions of K-12 education's customers, and provide an opportunity to hear their needs. This study's findings provide potential to respond to these needs through the personalization of teaching and learning and the incorporation of executive skills.

Research Questions

1. What are Northwest Arkansas business, industry and postsecondary leaders' perceptions of students from the Don Tyson School of Innovation, with respect to whether the personalized learning environment effectively prepares students for academic success?
2. What are Northwest Arkansas business, industry and postsecondary leaders' perceptions of students from the Don Tyson School of Innovation, with respect to their ability to demonstrate career readiness as future employees in local businesses?

Theoretical Framework

Qualitative case study is both a methodology (a type of design in qualitative inquiry) and an object of study (Creswell, 2007). Cresswell further states, that as a form of qualitative research methodology, case study is an intensive description and analysis of a bounded social phenomenon (or multiple bounded phenomena), be this a social unit or a system such as program, an institution or a process (2007).

To fully capture the human experience, sentiments, experiences and external partner perception of student personalization at the DTSOI and its impact upon college and career readiness, a qualitative study was utilized (case study methodologies). Data sources include: anonymous survey feedback, semi-structured interview transcripts and my observational field

notes. Perceptual data were used to illustrate regional beliefs of Northwest Arkansas' business, industry and post-secondary institutions, pertaining to DTSOI students, their perceived college and career readiness, and their ability to fill vacancies within the Northwest Arkansas region.

Merriam-Webster defines perception as follows: "an awareness of the elements of environment through physical sensation color perception, physical sensation interpreted in the light of experience, quick, acute, and intuitive cognition, or a capacity for comprehension" (2017). These defining characteristics of perception were applied through the collection of participants' perceptions of the DTSOI, its programs, students' college, and career readiness, to determine whether students and the DTSOI learning model appeared to possess the characteristics necessary for future success.

Conceptual Design

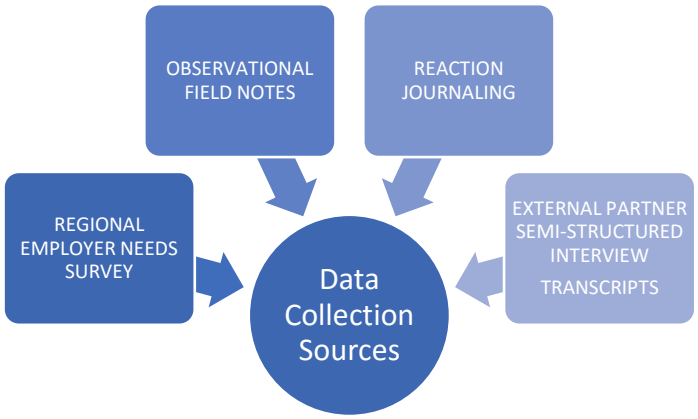

Figure 1. Data collection sources for college and career readiness projections.

The conceptual design (Fig. 1) provides a visual of the components that make up this qualitative study. University of Arkansas Institutional Review Board (IRB) approval and written approval from the Springdale Public School District were obtained for this study. Northwest Arkansas regional employer needs survey data, observational field notes and journal entries provided perceptual feedback. Further, stakeholder interview transcripts and surveys also

provided data. Because it will be several years before DTSOI graduates will actually enter the workforce, stakeholders were asked to project their impressions or perceptions of these students into the future and conjecture whether the students would be better prepared by virtue of the personalized learning experience compared to that of a traditional school setting. A qualitative approach to this study was selected to provide business, industry and post-secondary institution members a means to provide their perceptions and descriptions of their interactions with DTSOI students. According to Bloomberg & Volpe, through qualitative case study, "participant data will provide thick, rich descriptions that will provide relevance (2012, p. 32).

Parameters of the Study

Surveys regarding workforce needs were conducted in conjunction with the Northwest Arkansas Council and the Springdale Chamber of Commerce to ensure accurate and sufficient regional representation of necessary occupations, skills, and employee needs. Regional workforce needs surveys were distributed to 50 members of Northwest Arkansas' business, industry and post-secondary institutions. These survey participants were selected based on their participation in DTSOI opportunities such as Real World Wednesday, Career and Interview Fairs or campus tours. This determination was made to utilize feedback of community members having interacted and observed DTSOI students, thus providing grounds to base perceptual data upon.

As business, industry and post-secondary participants observed, toured and interacted with DTSOI students, observational field notes and journal entries were made by myself, further describing interactions between students and community members. Further, 10 external partners were selected to include seven business and industry partners and three post-secondary educational institutions to participate in in-depth, semi-structured perceptual interviews.

Limitations

Because DTSOI is in the early stages of development, community knowledge of and community involvement is in its equally early phases. Therefore, this study relied on small sample size and the perceptual feedback of a small group of survey participants (46). The results of the semi-structured interviews in this study are limited to the interview responses of 10 participants, 7 business and industry members and 3 post-secondary members. Northwest Arkansas' business, industry and post-secondary entities far outnumber the sample size, thus limiting perceptual feedback to that of the representative group. Further, both needs and responses of survey and semi-structured interview participants reflect needs of Northwest Arkansas, and may be limited in scope. Descriptions of needs and employment/ enrollment may differ elsewhere.

The personalized learning model offered by the DTSOI is only possible because of waivers applied for and granted by the Arkansas Department of Education (ADE). ADE recognizes these waivers through the schools of innovation designation and the district conversion charter school rules and regulations. These waivers allow multiple courses to merge in a project-based format with the ability for students to accelerate learning and credit completion rates. These waivers are exclusive to DTSOI and represent the accomplishments of that campus. Personalized learning is an emerging instructional program, and the goals of the DTSOI are new to Arkansas and unique to Northwest Arkansas and therefore lack comparative data sets. Further, Northwest Arkansas serves as a setting for multiple post-secondary institutions and additional employers whose perceptual data was not included in this study's participant sample, and therefore limit perceptual data to the participants included.

Delimitations

Workforce needs at regional and national levels are not specific to this school or the learning model. The workforce needs in this study are inclusive of all Northwest Arkansas job seekers regardless of educational attainment, institution of completion, location or demography. The perceptual data sources of only business, industry and post-secondary members serve as a delimitation in this study. This decision was made to create the opportunity for these external stakeholders to provide perspective based on their perceived college and career readiness levels of the DTSOI students as they relate to the needs of Northwest Arkansas employers and post-secondary institutions. As students graduate from high school, it is anticipated that they will either continue their education or begin entering the world of work. Business, industry and post-secondary institutions are the next steps in a student's path to adulthood. A student's ability to attain a job with a living wage and become a contributing member of one of Northwest Arkansas' communities is valuable on many levels--for the economic prosperity conferred by a living wage job and the well-being of the individual. Participant perception of DTSOI students' potential success in their respective areas reflects a direct connection between K-12 education and students' futures.

Personalized learning is not school specific. The system of educational delivery is available in an increasing number of school districts nationally; however, size and scope of this approach are not known because of the rapidity with which the educational landscape changes.

This study is limited in scope. This action is deliberate and is taken with intent to create a focus on the unique delivery system and non-traditional campus on which the study takes place. Traditional schools do not have waivers like those that were granted by the Arkansas Department of Education so that DTSOI could innovate rapidly. This study served as an initial

step in the process of identifying perceived programmatic impact on students and the impressions made by students on potential employers or post-secondary educators.

Assumptions

DTSOI has school of choice designation; therefore, the assumption was made that all students in attendance at the DTSOI desired to be part of the program. Students from any Springdale School District attendance zone may elect to attend. Further, the assumption was made that all students in this program were progressing toward college and career readiness, and that their potential would be perceived by stakeholders.

The DTSOI facility was opened in the 2016-17 academic year and was designed for this program. The assumption was made that the learning environment was conducive to personalized student learning, and college and career readiness.

Finally, this study assumed that participating business, industry and post-secondary institution members have understanding of the personalized instructional delivery model and programs in place at the DTSOI and how these factors have influence on students' demonstration of college and career readiness.

Positionality

In this study, I was required to work through several areas of subjectivity, assumptions, and protections that the founding administrator might possess. Potential subjectivities included being charged to incorporate methods of personalization to allow students the opportunity to achieve and excel in skills needed for college and career readiness. I am a member of the school community and the son of the district's Superintendent. Sharing the story of the model has provided the DTSOI educators with the ability to discuss, educational reform from a highly visible platform. In addition, I oversee all district Career and Technical education programming.

Establishing the conflicts of interest allowed me to consider the potential limitations through the data collection process.

Professional Experience

As the researcher in this qualitative study, I bring extensive first-hand experience related to the research questions posed. As the founding administrator for the Don Tyson School of Innovation, I have had the opportunity to work with the National Center for Secondary School Redesign (CSSR), whose central focus is the personalization of teaching and learning. This close relationship has led to extensive support and mentoring from national leaders in this area and has fostered a strong foundation and network of student-centered educators nationally. These partnerships have been invaluable in establishing our current position in the implementation process and will continue to serve in the years ahead.

Further, in my professional career, I have been the career and technical education director for the Springdale Public School District for the past 5 years. I have also had the opportunity to serve as a board member at the state level for both the Arkansas Career and Technical Education Association, and the Arkansas Career and Technical Education Administration Association for the same number of years. These roles have allowed me to build extensive community, state, civic, post-secondary and economic partnerships that help fuel opportunities for programmatic guidance and development in this process. Further, the relationships that have emerged in this work have allowed students to have advantages in gaining first-hand learning opportunities from these partners.

Personal Experience

In addition to the experiences that I have had, and the knowledge gained through my professional life, my personal experiences have also led me to the concepts that have been brought forward in the DTSOI. Now in my 14th year in public education, my family background takes me much deeper in my stance of teaching all students to their personal goals; or their own win in life.

My family has been heavily invested in the Springdale School District. My mother was a teacher in the district for 28 years. My father has been the Superintendent of the Springdale School District for 36 years, and currently stands as the longest tenured Superintendent in the state of Arkansas. His vision of "All means All" resonates in my own drive for the personalization of teaching and learning. It is with this goal in mind that the DTSOI strives to serve all students, regardless of their entering level of readiness, so they may find a personal connection to learning and develop a personal plan of action for their academic career and beyond. Daily interactions with my father, our school board, our district leadership team, community members, students and parents have offered me personal experience and insights that have attributed to the development of this campus and its potential offerings to students.

In the development of this program, I reflected deeply in my own high school and collegiate experiences. This led me to work closely with post-secondary and business leaders to develop a program of study that not only alleviated potential pitfalls for students, but also opened their eyes and minds to opportunities that they may not have previously considered. The interactions with these external partners built strong rationale for the incorporation of executive skill development. When combined with applied academic experiences, these skills will serve

students in life ahead regardless of college attendance or workforce participation. The shared work, vision and drive to serve students at a personalized level depends on these partnerships and the shared lift that they have helped provide.

Knowledge of the Literature

Several contributing factors have combined to create a foundation and call for personalized learning approaches. Figure 2 illustrates the multiple topics of research that comprise foundational areas of literature reviewed in this process.

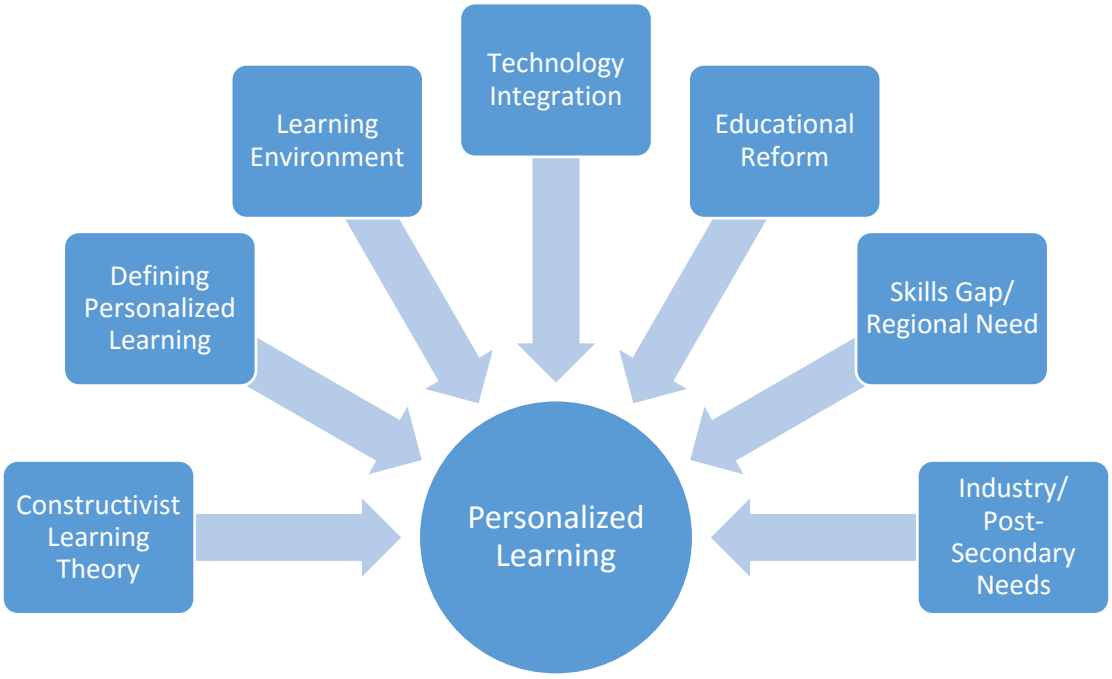

Figure 2. Foundational areas of research.

Foundational research in the areas of constructivist learning theory, its components and its transformation from learning by doing into engagement, development of deeper meaning for students and meeting each student on their own personalized level paints a picture of ongoing

history of educational evolution and its multiple facets. This foundation then led to creating a deeper understanding and a functional definition of personalized learning. Although continually evolving, current literature describes what personalized learning is, and further, what it is not. In current practice, many educators utilize philosophies and descriptions of personalized learning to offer anytime, anywhere learning. Through personalized learning structures, this research then is further outlined through instruction delivered via face-to-face, blended and digital environments.

Certainly depending on the location, method, or environment, specific legalities and state requirements must be considered in implementing a new, flexible learning system for students. Each state and district will have its own unique needs, laws and requirements that may require amendment, exemption or reform to allow such methods to be implemented. This combination of political and educational environments then led me to a deeper understanding of how educational reform movements have gotten the U.S. to this point, and how new developments are now allowing schools and school districts to pursue such endeavors. This requires that educational policy and grant funding opportunities are developed. Depending on methods and location of instructional delivery, and the restrictions and opportunity for the implementation of personalized learning methods, research then takes a direction of studying the tools which allow for such programmatic offerings to occur; the integration of instructional technology in the learning process.

Even with personalized structures in place, proper political provisions made, sufficient technology and support systems implemented and an opportunity presented to students, schools and school districts must determine their purpose in providing such opportunities. In the case of the Don Tyson School of Innovation in Springdale, Arkansas, the purpose is multifaceted. This campus seeks to assist students in early preparation for post-secondary courses, bridge the gap

between K-12 education and the workforce, assist in the development of executive skill sets, and provide a student voice and choice in the learning process. Each of these goals are notable, worthy of school district effort, and stand-alone achievements upon their completion; however, when done simultaneously, they create the learning environment offered by the Don Tyson School of Innovation.

In pursuance of these campus-specific goals, research then turned to both regional employment needs both in terms of occupation and skill set as well as post-secondary graduation needs and their desired skill sets. This research then led to comparison of Northwest Arkansas performance in the aforementioned areas as compared to national trends in the U.S. These data reveal that Arkansas fares poorly by comparison in terms of timely college graduation and further fuels the need for the development of college and career planning. From an early age, students should receive education that supports the development of required executive skills deemed necessary for college survival as well as entry into the workforce upon graduation.

Each of my personal and professional experiences and the knowledge gained through in-depth research in the aforementioned topics have been preparation for the proposed study. As previously noted, it is my belief that K-12 education has multiple customers to serve. While maintaining the belief that students must remain the focus at all times, those students must leave their high school experience prepared to meet the demands of life after graduation. This implies that graduates must be prepared to meet both the academic needs and executive skill needs of college and career employability. Therefore, I assert that in addition to students and their families, K-12 education must also serve the needs of their business, industry and post-secondary customer needs. It is with this belief that this study was created.

Through the information gained, it is the goal of this study to connect each of the research topics together and to describe the perceptual feedback of business, industry and post-secondary institutions. Upon describing these connections, this study's findings could offer a potential educational solution to personalization of learning that results in student engagement, executive skill attainment, college and career awareness, and student achievement.

Literature utilized in this study covers a broad range of topics, all leading back to a historical depiction of the evolution of educational practice. This evolution includes policy, implementation of varied methods of personalized practice, and educational technology integration. With educational reform comes the need to address regional connection to the workforce and college preparedness. These needs lead to analysis of skills gaps and necessary skills within the Northwest Arkansas region. These topics were selected to properly frame the problem.

The literature reviewed and included in this research provides relevance, empirical data, and scholarly defense in the positioning of and need for such programing. Due to the evolution of educational practice over time and its impact upon the development and emergence of personalized instruction, both current articles as well as foundational works that are notably older have been used to fully describe the program currently offered and the perceptual feedback of business, industry and post-secondary participants. Once documents were established as scholarly, credible, and relevant to the nature of the study, specific local and regional data were utilized to provide a relevant information set as it pertains to the study.

Role of the Researcher

I am a steadfast supporter of a strong school culture; one that supports stronger teachers, fosters professional collaboration, student development and enjoyment of their education. DTSOI culture values student performance, community collaboration, real-world application of student learning, and the creation of students who can contribute in their community. DTSOI staff intend for the educational experience to benefit everyone involved: students, teachers, families, communities, and administrators. This study sought to provide information as to the perceptions of DTSOI business, industry and post-secondary partners as to the perceived college and career readiness levels of DTSOI students because of their participation in a personalized learning environment.

I am the primary instrument for data collection and analysis. Bloomberg and Volpe (2012, p. 36) state in this form of study, "the researcher strives to describe the meaning of the findings from the perspective of the research participants from data that is collected directly from the participants within natural or non-manipulated settings." Through this qualitative study, I would seek to contribute to the literature pertaining to personalized learning options and outcomes, and to create the opportunity to make the DTSOI programs more agile and responsive to the potential needs of employment, and post-secondary institutions.

Definition of Terminology

For the purposes of this study, some terms were operationally defined while others are researcher-developed definitions.

- *ACT/ ACT ASPIRE*: A national assessment firm, based in Coralville, Iowa which offers Arkansas' selected Summative evaluation services. According to the ACT website, ACT

Aspire maps learner progress in grades three through high school on a vertical scale, anchored to the scoring system of the ACT (discoveract.org)

- *Adequate Yearly Progress (AYP*): Adequate yearly progress (AYP) is the measure by which schools, districts, and states are held accountable for student performance under Title I of the No Child Left Behind Act of 2001 (NCLB), the current version of the Elementary and Secondary Education Act. AYP was introduced into federal law in the ESEA's 1994 reauthorization (Education Week, 2011).
- *Blended Learning:* A combination of face-to-face instruction, online instruction, and digital instruction (American Institute for Research, 2013).
- *College and Career Ready*: A student who is ready for college and career can qualify for and succeed in entry-level, credit bearing college courses leading to a baccalaureate or certificate, or career pathway-oriented training programs without the need for remedial or developmental coursework (Conley, 2012).
- *Constructivism/ Constructivist Theory:* Constructivism as a paradigm or worldview suggests that learning is an active and constructive process. The learner is an information constructor. People actively construct or create their own subjective representations of objective reality. New information is linked to prior knowledge; thus mental representations are subjective. Noted contributors are: Lev Semyonovich Vygotsky (1896 – 1943), Jean Piaget (1896 – 1980), John Dewey (1859 – 1952) and Jerome Seymour Bruner (1915 – 2016) (Learning Theories, 2017).
- *District Conversion Charter School:* Public schools that operate under a charter, or district conversion charter or charter contract which frees them from many regulations created for traditional public schools while holding them accountable for academic and financial results. The charter contract is between the charter school's sponsoring entity

and the Arkansas State Board of Education or the Commissioner of Education. (Arkansas Department of Education, 2016).

- *Elementary Secondary Education Act (ESEA):* The Elementary and Secondary Education Act (ESEA) was signed into law in 1965 by President Lyndon Baines Johnson, who believed that full educational opportunity should be our first national goal. From its inception, ESEA was a civil rights law. ESEA offered new grants to districts serving low-income students, federal grants for textbooks and library books, funding for special education centers, and scholarships for low-income college students. Additionally, the law provided federal grants to state educational agencies to improve the quality of elementary and secondary education (U.S. Department of Education, 2016).
- *Every Student Succeeds Act (ESSA):* Every Student Succeeds Act (ESSA) was signed by President Obama on December 10, 2015. This bipartisan measure reauthorized the 50-year-old Elementary and Secondary Education Act (ESEA), the nation's national education law and longstanding commitment to equal opportunity for all students. The reauthorization builds on key areas of progress in recent years, such as all-time high- high school graduation and college attendance rates as well as historically low dropout rates. (U.S. Department of Education, 2016).
- *Experiential Learning:* Learning in which the learner is directly in touch with the realities being studied. It is contrasted with the learner that only reads about, hears about, talks about or writes about these realities; however, the learner never comes into contact with them as part of the learning process (Keeton & Tate, 1978).
- *1:1 laptop initiative:* A learning initiative by which students are given a laptop computer for learning use, both during school hours and outside of the regular school setting (Bebell & O'Dwyer, 2010).

- *No Child Left Behind:* The No Child Left Behind Act (NCLB), was a bipartisan effort, passing Congress with support in 2001 and was signed into law by President George W. Bush on Jan. 8, 2002. NCLB served as an update to the Elementary and Secondary Education Act of 1965. The NCLB law grew out of concern that the American education system was no longer internationally competitive, and significantly increased the federal role in holding schools responsible for the academic progress of all students. Further, it put a special focus on ensuring that states and schools boost the performance of certain groups of students, such as English-language learners, students served in special education, and poor and minority children, whose achievement, on average, trails their peers (Klein, 2015).
- *NWEA MAPS Assessment*: A formative evaluation tool distributed by Northwest Evaluation Association, based in Portland, Oregon. It offers multiple research-based, computerized assessments to assist educators answer the question: Are my students learning? By delivering precise, real-time information about every student's learning successes and challenges (NWEA, 2017).
- *Personalized Learning:* An instructional approach that encompasses both differentiation and individualization, but is also flexible in content or theme to match the specific interests and prior experiences of learners (Demski, 2012).
- *Race to the Top District (RTTD):* On February 17, 2009, President Obama signed into law the American Recovery and Reinvestment Act of 2009 (ARRA). The ARRA lays the foundation for education reform by supporting investments in innovative strategies that are most likely to lead to improved results for students, long-term gains in school and school system capacity, and increased productivity and effectiveness. The ARRA provided $4.35 billion for the Race to the Top Fund, a competitive grant program

designed to encourage and reward States that are creating the conditions for education innovation and reform; achieving significant improvement in student outcomes, including making substantial gains in student achievement, closing achievement gaps, improving high school graduation rates, and ensuring student preparation for success in college and careers; and implementing ambitious plans in four core education reform areas:

- Adopting standards and assessments that prepare students to succeed in college and the workplace and to compete in the global economy
- Building data systems that measure student growth and success, and inform teachers and principals about how they can improve instruction
- Recruiting, developing, rewarding, and retaining effective teachers and principals, especially where they are needed most
- Turning around our lowest-achieving schools (U.S. Department of Education, 2009).

- *School of Innovation:* Leaders who design new and creative alternatives to the existing instructional and administrative practices. These changes are intended to improve academic performance and learning for all students. Approval to become a School of Innovation is determined by the Commissioner of Education and is granted for a four-year period (Arkansas Department of Education, 2016).
- *Student- Centered Learning*: Student-centered learning moves students from passive receivers of information to active participants in their own discovery process. What students learn, how they learn it and how their learning is assessed are all driven by each individual student's needs and abilities (ISTE, 2017).
- *Twenty-First Century Skills (21st Century Skills):* Refers to a broad set of knowledge, skills, work habits, and character traits that are believed by educators, school reformers,

college professors, employers, and others—to be critically important to success in today's world, particularly in collegiate programs and contemporary careers and workplaces. 21st century skills can be applied in all academic subject areas, and in all educational, career, and civic settings throughout a student's life (Glossary of Education Reform, 2016).

- *Waiver:* Legal approval from the United States Department of Education to State Education Agencies to allow states to forego certain requirements with permission from a governing entity (Brown & Ayers, 2011).

Chapter One Summary

Employers in Northwest Arkansas want to hire employees who are prepared academically for the challenges of the workplace and have cutting edge skills to perform in the professional environment. The Partnership for 21st-Century Learning (2010) breaks these skills down into three main categories: learning skills, literacy skills, and life skills. Skills are further identified as: critical thinking, creative thinking, collaborating, communicating, information literacy, media literacy, technology literacy, flexibility, initiative, social skills, productivity and leadership.

Northwest Arkansas employers struggle to find enough qualified candidates while colleges and universities in Arkansas struggle to graduate students on time. This leads to questions about whether schools are personalizing the student experience to offer the most meaningful education possible, including opportunities to develop executive skills and personalization of the learning process. If student education can include meaningful ways to meet students where they are, then it becomes possible to bridge the gap between K-12 education and students' next steps in life. This study sought to describe the college and career readiness of

the DTSOI students as perceived by members of Northwest Arkansas' business, industry and post-secondary institutions.

Chapter Two: Review of the Literature

Introduction and Overview

Personalized teaching and learning are currently topics of interest in the educational community. However, most studies reviewed limited the use of personalization to only technology integration. Although critical to agile and effective personalization, technology is only one element of SOI's approach. This study seeks to illustrate the need of personalization beyond simple technology implementation and provide business, industry and post-secondary perceptions of how personalized learning outcomes correlate to the needs of business, industry and post-secondary needs in Northwest Arkansas. Foundational searches for personalized learning brought forward thousands of uses of the phrase 'personalized learning.' When the search parameters were refined and filtered for scholarly, peer-reviewed sources and dissertations/ theses from the last five years, 13 journal articles, 12 books, 4 magazine articles and 36 dissertations were selected for initial review; however, few of these studies provided insight into personalized learning as deployed at DTSOI.

With the same filters in place, searches regarding educational reform efforts in addition to personalized learning under an educational leadership filter provided very few scholarly and peer reviewed resources. Finally, skills gap analysis and executive skills development searches led me to 423 sources and 93 peer reviewed journals. However, in each of the above searches, very few resources qualified as scholarly, peer reviewed and relevant to the DTSOI model. This lack of accessible information reinforces the significance of this study.

Foundations of Personalized Learning

Although school leaders understand the world around us is constantly evolving, many of today's schools are still organized around traditional ideas and practices. Mascolo (2009) asserts

that schools tend to be teacher-centered, organized around models of lecturing and assessment. The teacher talks, the students listen, and students work alone with little time left in the academic day for collaboration (Mascolo, 2009). Teacher-centered approaches have been criticized for failing to emphasize critical thinking or practical problem solving and for focusing too much on the teacher and not enough on the learner (Hannafin & Land, 1997). Laing (2011) asserts that this type of delivery system does not prepare students for today's workplace, which is global, largely virtual, team oriented, rich with collaboration, and ever evolving.

The personalization of teaching and learning is not an entirely new theory. Variations of personalization have been around since the 19th century. Recently, personalization has gained credibility among many educational leaders because of advancements in educational technology that facilitate a more personalized learning environment for every student (Demski, 2012). Demski (2012) further states that by joining principles of personalized learning with the tools of technology, some educators believe the opportunity exists to create customized learning environments that can break schools out of traditional, industrial-age models of education and bring about true 21st Century school reform.

For many teachers, the focus on constructing meaning in the teaching-learning process resonates with constructivist-based instruction which places educational priorities on students' learning (Jones & Brader-Araje, 2002). Social constructivist applications are commonly found in schools through the widespread use of cooperative and collaborative teaching strategies (Slavin, 1980; 1990). In each of these teaching strategies, instructional emphasis moves from teacher-centric to having students working together while sharing ideas and challenging each other's perspectives (Jones & Brader-Araje, 2002). Constructivist learning practices are relevant both academically and in preparation for careers, due to the strong consideration of learner preference and application of learning.

> Constructivism in education emerged after the behaviorist movement as a welcome and refreshing view of learning that centers on the active learner within the teaching-learning process. This emphasis on the individual (within the greater social context) during instruction has drawn attention to the prior beliefs, knowledge, and skills that individuals bring with them. Prior knowledge has been shown to significantly influence the ways individuals make meaning out of instruction. The constructivist focus on the social context and larger community of learners has resulted in a major shift away from individually-based instruction to instruction that incorporates and embeds teaching within the larger community of peers, younger students, as well as those who are older. Finally, constructivism's greatest contribution to education may be through the shift in emphasis from knowledge as a product to knowing as a process (Jones, & Brader-Araje, 2002 p. 4.)

Student-centered learning allows for added student responsibility in the learning process. According to Slunt (2004), any method that focuses more attention on students' learning than it does on instructors' teaching should benefit the students' understanding of the material. Demski (2012) asserts that educators have known for some time now that a one-size-fits-all approach to learning does not lead to the level of student engagement and academic success that schools strive to achieve. In addition, Demski (2012) offers that in educator's search for more customized approaches to instructional delivery, they have explored multiple options in doing so. These efforts have included multiple methods; they have addressed different student learning styles and have increased collaborative learning efforts among students. Further, educators have also attempted to increase students' access to technology. School districts have implemented 1-to-1 device programs, utilized data-driven decision-making tools, and brought forward learning management systems to access digital content. However, schools have incorporated these 21st century instructional techniques and tools as add-ons to the traditional, teacher-centric classroom structure (Demski, 2012).

What is Personalized Learning?

In the ever-evolving world of educational technology, the term "personalized learning" is not yet defined (Education Week, October 20, 2014). Personalized learning, according to

Childress and Benson (2014), incorporates tailored student learning experiences-what they learn, and how, when, and where they learn it-that account for individual needs, skills, and interests, and requires students to take ownership of their learning. When done well, personalized learning can meet students where they are, motivate them based on their interests and academic level, accelerate their learning, and prepare them to become true lifelong learners.

The former United States Secretary of Education, Arne Duncan (2013) stated, "In traditional classrooms, students complete a lesson and move on to the next when it is time for the whole class to do so, regardless of whether they have mastered it or they are already well ahead" (p. 69). However, with personalized learning, students work at their own pace, taking as much or as little time as necessary to master the lesson and then move on (Duncan, 2013). The premise behind personalized learning is that teaching and learning occur on a personal level for each student. The pace of the learning, the instruction, the approach to the learning and the context of the learning experiences and examples are all custom tailored to the needs, interests and ability level of each individual student (Duncan, 2013). Duncan (2013) views personalized learning as a potential answer to one of the U.S. education system's biggest criticisms. "One of the most enduring, and valid, criticisms of our education system is that it has taken a one-size-fits-all approach to our kids in the face of their unique combinations of gifts and challenges" (Duncan, 2013, p. 70).

Student-centered learning has proven to be successful in raising the achievement levels of students in reading, math and science (Overby, 2011, p. 1). Student-centered learning provides an alternative to typical classroom approaches (Thomas, 2000; Blumenfeld, Soloway, Marx, Krajcik, Guzdial, & Palincsar, 1991) wherein curriculum focus is on the unique learning needs or interests of individual students (Zmuda, 2009; Diehl, Grobe, Lopez, & Cabral, 1999) such that it becomes the basis of the entire curriculum (Bell, 2010).

According to Cavanaugh (2014), many districts now believe that personalized learning better meets the demands of a student population that is growing more diverse, with an extensive range of academic, learning and language needs. Personalized learning encourages investigation of real world challenges and problems and calls for student collaboration and technology use (Blumenfeld, Soloway, Marx, Krajcik, Guzdial, & Palincsar, 1991).

Personalized learning is not equivalent to individualized learning, in which students share the same lessons, learning goals and objectives but move through the curriculum at their own pace. Nor is it differentiated instruction, in which students share learning goals, but receive instruction that is tailored to their learning needs (Demski, 2012). The U.S. Department of Education describes personalized learning as an instructional approach that encompasses both differentiation and individualization, but is also flexible in content or theme to match the specific interests and prior experiences of learners. Personalized learning models utilize all the different things that people have in their repertoire to add value to their learning (U.S. Department of Education, 2015).

The Personalized Learning Foundation, as cited by Cator (2010), indicates that personalized learning models require more of teachers and students than traditional delivery models. These additional elements include a stronger emphasis on parental involvement, the use of smaller class sizes and frequent one-on-one teacher and student interaction. Personalized practice calls for special attention to differences in student learning styles, and requires student-driven participation in developing the learning process, additional access to technology, multiple learning environment options, teacher and parent development programs, and choices in curriculum programs. In making individual learning needs the primary consideration, it becomes

necessary to look further than what might be preferred, more convenient, or logistically easier for teachers and schools (Hidden Curriculum, 2014).

Personalization through Technology

Districts see the potential in personalized learning to meet the demands of their diverse student populations (Cavanaugh, 2014). Many educators believe technology is the tool needed to achieve personalized learning goals (Blumenfeld, Soloway, Marx, Krajcik, Guzdial, & Palincsar, 1991; Cavanaugh, 2014; Vander Ark, 2013). Dr. Arne Duncan stated that students need to graduate from high school prepared to live and work in a technology based world. How well prepared students are for this world will have a tremendous impact on the future economic strength of this country (Duncan, 2013). Without question, students must leave high school with more than content knowledge; employable skill sets such as technology use, and student drive for continuous learning must also be areas of focus.

Technology has evolved and continues to do so at a record pace (Bray & McClaskey, 2013). Modern technological tools such as smart phones, apps, tablets, social media, and YouTube are examples of some of the tools available for teaching and learning (Nadelson, Bennett, Gwilliam, Howlett, Oswalt & Sand, 2013). According to Nadelson et al. (2013), "the ongoing evolution of technology hardware, software, and instructional applications has numerous educational implications" (p. 77).

The use of technology in schools today brings excitement and high expectations for increasing student achievement (Twyman, 2014). The Obama administration and the United States Department of Education encouraged a transformative culture of learning powered by technology (U.S. Department of Education, 2010). According to the United States Department of Education's National Education Technology Plan (2010):

> Just as technology is at the core of virtually every aspect of our daily lives and work, we must leverage it to provide engaging and powerful learning experiences, content, and resources and assessments that measure student achievement in more complete, authentic, and meaningful ways. Technology-based learning and assessment systems will be pivotal in improving student learning and generating data that can be used to continuously improve the education system at all levels. Technology will help us execute collaborative teaching strategies combined with professional learning that better prepare and enhance educator's competencies and expertise over the course of their careers. To shorten our learning curve, we can learn from other kinds of enterprises that have used technology to improve outcomes while increasing productivity (p. 3).

The notion that technology will have a critical role in personalized instructional practice is well established. The questions are what that role will be and how to equip teachers to utilize it (Twyman, 2014). Findings from a 2009 University of California, Fullerton study (Smith, Salaway, & Borreson Caruso) stated that 98% of 30,616 undergraduate students owned or had access to a computer (as cited in Donovan, Green, and Hansen, (2011). If students are to be adequately prepared for the college environment, this statistic should reinforce the need for technological savvy as a desirable skill.

Integrating technology in teaching and learning can have a powerful and meaningful impact on student outcomes. Meta-analyses of existing research have found positive outcomes for instruction that utilizes computers, game-like curricula, and interactive simulations (Lee, Waxman, Wu, Michko, and Lin, 2013; Twyman, 2014). Lee et al. (2013) examined 58 previous studies to evaluate the effects on student outcomes when utilizing technology. Results showed an overall positive mean effect of 0.42 when teaching and learning with technology. Results were also broken down by grade spans. According to Lee et al. (2013), "Grade 9-12 had the lowest mean effect at 0.22 compared to Kindergarten through third grade at 0.50, fourth grade through sixth grade at 0.41, and seventh and eighth grade at 0.59" (p. 136).

Learning environments in which every student utilizes devices such as laptops, tablets, or personal computers to access the Internet, digital course materials, and digital textbooks, are

increasingly frequent (Bushweller, 2011; Walsh, 2012). Personalized learning allows students to use current digital tools to work at their own pace, collaborate with peers, and pursue classroom projects that are based on their own interests. Advocates of 1:1 initiatives and personalized learning say the heart and soul of the approach is increased student motivation to learn, fueled by student interests and the ability to learn anytime and anywhere (Bushweller, 2011).

According to a 2016 Wesley University study, *Steps Toward Personalized Learning Using Online Asynchronous Technology: A Study of 7th, 10th, and 12 th graders at a Small Rural School in Massachusetts,* exposure to an online learning platform had some impact on students' confidence, perception, satisfaction with, and overall views on the relevance of technology. Additionally, this exposure resulted in a very noticeable impact on students' views about technology's role as a tool for increasing personalized learning. Online learning technologies enabled students to achieve and exceed academic standards (Farmer, 2016).

Cator (2010) speaks to the benefit of educational technology and its role in personalizing the learning environment through its ability to provide a vast array of resources and interest areas, which can be integrated into the classroom; the classroom is not a closed environment anymore. Vander Ark (2013) states that in a personalized learning environment, students are engaged and learning at their own pace in the best way possible for each individual student. The personalized learning model has been utilized in alternative classroom settings for years by some students who were not successful in traditional classrooms, but it is vastly simplified by the implementation of technology (Duncan, 2013).

Some schools have welcomed technological tools into their instruction, but others have been slow to incorporate technology into the learning process (Duncan, 2013). Today's elementary age children are expected to finish college around the year 2030 with careers lasting into the second half of the 21st century. Our country's reliance on technology to grow our

economy will only increase (Ford, 2009). Schools must prepare students for the future and digital technology will play a role to ensure students are ready for college or career goals (Duncan, 2013). According to Vander Ark (2013), "We are living through the most important change in how human beings gain access to information and educational opportunities. It may be more significant than the printing press, and it's certainly happening faster" (p. 3).

Personalization through Anytime, Anywhere Digital Learning

In 2009, President Obama's education platform centered on the goal of every child receiving the education they deserve (United States Department of Education, 2014). A goal of the legislation was for K-12 education to prepare all students for college, careers, and the innovation-based economy that we live in (United States Department of Education, 2014).

Digital tools are pushing the boundaries of personalized learning, helping students customize their own classroom experiences based on what they want and need to know (Davis & Ash, 2011). This personalized ability allows for student ownership of the time, the pace and the place of the learning: student voice and choice. The United States Department of Education's Race to the Top grant program emphasizes the increasing need for personalized learning environments (American Institutes for Research, 2013). The American Institutes for Research (2013) further states, "Personalized learning is a new approach to understanding how and where education is delivered, how students learn, and the roles of teachers, parents, and the community in supporting students' academic success" (p. 1).

In any personalized learning model, the student--not the teacher--is the central figure. Students have access to traditional learning resources like books and hands-on materials, and support from teachers, parents, mentors, coaches, and schoolmates. Additionally, they have personal access to technology, which allows them to connect to learning communities,

information management and communication tools, personal learning networks, information, data, expertise and authoritative sources, online tutoring and guided sources, which support student individual needs and interests (American Institutes for Research, 2013).

The digital revolution has changed nearly every aspect of the current global community (Duncan, 2013). Industries and job sectors are rapidly changing as well. According to Gordon (2013), "Education-to-employment systems are out of date" (p. 43). Schools need to prepare students for the jobs that will be available to them (Gordon, 2013); these jobs assuredly will include technology. According to Duncan (2013), "Schools have been slow to embrace innovation, but are beginning to let in this digital revolution" (p. 69). The Digital Learning Council released a report in December of 2010 calling on schools to do a better job using digital tools to personalize the teaching and learning process (Davis, 2011).

In an environment that is fully personalized, the learning objectives and content as well as the method and pace may all vary (United States Department of Education's National Education Technology Plan, 2010; p. 12). Students have been grouped by their birthdate out of convenience for the last 100 years (Vander Ark, 2013); however, some students in traditional classrooms become bored because they are not challenged, while others are frustrated because they are unprepared for the lesson. Through personalizing the learning experience, these frustrations can be eliminated. Personalized learning allows students to use the latest digital tools to work at their own pace and pursue classroom projects that are based on the student's own interests (Bushweller, 2011).

The Springdale School District in Arkansas opened the Don Tyson School of Innovation in the fall of 2014 (Springdale Public Schools, 2015). This effort marked the beginning of a new district reform effort in the personalized learning process for students. Despite the meager number of schools transitioning from a traditional school paradigm into a personalized learning

environment, the question remains, will the emergence of personalized learning in parts of the United States create a large scale reform movement throughout the country?

Personalization through Blended Learning Environments

Blended learning environments are a combination of face-to-face instruction, online instruction, and digital instruction (American Institute for Research, 2013). Great teachers have been using multiple types of instruction for years in an effort to personalize instruction to individual students (Vander Ark, 2013). Blended learning can include many types of technology-enhanced practice such as presenting on an interactive whiteboard, sharing digital content, or having students conduct online research (Vander Ark, 2013). According to Vander Ark (2013), combining multiple modes of instruction may not be easy, but potential benefits include:

1. More lessons at the right level.
2. Improved student engagement, motivation, and persistence.
3. Better diagnosis of learning difficulties and gaps.
4. More time for teachers to provide informed small group instruction.
5. The opportunity to extend the day and year-without a bigger budget.
6. The opportunity for teachers to work together in a more professional, collaborative, data-driven environment.
7. A competency-based environment where students progress as they demonstrate mastery-and get the time to achieve it.
8. Improved progress tracking and, in a growing number of schools, a broad dashboard of success metrics.
9. Improved parent communication and involvement.
10. Improved sustainability for schools struggling with budget pressure (p. 4).

In recent years, several studies have been conducted to examine blended learning. Some studies focused on whether blended learning was an effective teaching approach. Other studies looked at student and teacher perception of blended learning or how student personality types affect the effectiveness of learning. According to Werth, Werth, and Kellerer (2013), classroom teachers have the greatest impact on the success of blended learning and the benefits greatly

outweigh the cost of implementation. Findings from Werth et al. (2013) state that "90% or more teachers found blended learning to be equal to or better than their previous techniques used in class" (p. 24). Werth et al. (2013) also found that:

> In general, teachers' experiences in blended learning found it to be a great benefit in allowing self-paced learning, providing resources to students who missed class or are struggling, obtaining to using student achievement data, providing feedback to parents, and differentiating instruction. This instructional technique also was shown to be particularly beneficial in facilitating teacher-student communication, fostering students taking responsibility for their own learning and locating resources themselves, improving student behavior issues, the time students are on task, to student motivation (p. 24).

Findings on the success of blended learning in Pregot (2013) and Napier, Dekhane, and Smith (2011) were positive but not to the extent of some studies like Werth et al. (2013). Pregot (2013) found that well-planned blended learning never lowered student outcomes and usually raised outcomes compared to traditional teaching.

Personalization through Competency and Educational Reform Efforts

Educational reform takes place every ten to twenty years in the United States (Ryan, 2004). Politicians use the term to promote their own political platforms. In the past fifty years, the United States has seen several educational reform movements and they usually coincide with a new President or a national report of past failure used by politicians. James E. Ryan (2004) offered this reflection on educational reform:

> Educational reform is notoriously beset by fads. Part of the explanation is impatience on the part of politicians and the public. Almost immediately after a new reform is introduced, supporters and opponents of the reform point to studies that "prove" its efficacy or futility… Most often, because the reforms (predictably) fail to produce significant and uncontested improvements in a short period of time, politicians and the public lose interest, especially if another new reform is dangled in front of them, promising the impossible. Demonstrating again the perpetual triumph of hope over experience, politicians and the public often discard the "failed" reform and rush to embrace the new one (p. 47).

By the late 1960s and early 1970s, the public concern over declining test scores and high unemployment among young people arose (Brookhart, 2013). As people became dissatisfied

with public schools, a ‘back to the basics’ movement called the minimum competency testing movement was developed. The minimum competency testing movement focused on the basics of reading, writing and arithmetic (Brookhart, 2013). Students would have to pass a basic skills test to graduate from high school, and by 1980, 29 states had minimum competency requirements (Brookhart, 2013). By the 1980s, student test scores were not supporting the success of the minimum competency testing movement and the movement faded. In 1983, the publication of A Nation at Risk jumpstarted the standards-based reform movement (Brookhart, 2013). Chopin (2013) states that A Nation at Risk proclaims, “The United States’ educational foundation was being eroded by a rising tide of mediocrity that threatened our very future as a nation and a people and called for educational reform supported by the federal government” (p. 412-413).

Both state and federal government were involved in this movement. States developed their own performance standards and student assessments (Brookhart, 2013). At the federal level, former President George H.W. Bush brought state governors together for an Education Summit in 1989, which set six broad goals for students to reach by year 2000 (Brookhart, 2013). This led to former President Clinton’s Goals 2000: Educate America Act.

In January 2002, former President George W. Bush’s No Child Left Behind Act was signed into law. The No Child Left Behind Act is the most recent reauthorization of the 1965 Elementary and Secondary Education Act (ESEA). No Child Left Behind contained many of the same provisions as the original ESEA, but it also put an emphasis on student testing, high quality teachers and research-based programs (Brookhart, 2013). No Child Left Behind said schools must report the percentage of students who were proficient in math, language arts, and science to the federal government (Brookhart, 2013). Schools had to make adequate yearly progress toward proficiency of all students by 2014. Schools that failed to make adequate yearly progress two years in a row received sanctions (Brookhart, 2013).

The current United States education reform movement began in 2009 when former President Obama launched the Race to the Top Fund (Chopin, 2013). According to Callahan and Sadeghi (2013), "Advocates of Race to the Top say that education reform was desperately needed and federal incentives were a good way to stimulate that reform" (p. 69). This movement gained momentum in 2010 when the United States Department of Education wrote the national Educational Technology Plan. The Race to the Top Fund was a competitive grant that required states to submit proposals; it promoted innovation strategies (Chopin, 2013). In 2012, the United States Department of Education launched the Race to the Top-District grant program emphasizing personalized learning environments (Tanenbaum, LeFloch & Boyle, 2013).

The U.S. Department of Education (2015) offers endorsement and explanation of their view of personalized learning systems, offering support for transitioning away from seat time, in favor of structures that allow for increased flexibility, progression based on student mastery regardless of time, place, or pace of learning. Competency-based strategies provide such flexibilities in the way that credit can be earned.

The U.S. Department of Education continues to discuss various methods of personalization efforts including but not limited to: online and blended learning, dual enrollment and early college high schools, project-based and community-based learning, and credit recovery. Further, the U.S. Department of Education (2015) states that these types of learning lead to better student engagement and student outcomes because the content is relevant to each student and tailored to their unique needs. Through the use of educational technology and effective use of learning opportunities both inside and out of school, competency-based learning systems can help in creating multiple pathways to graduation (U.S. Department of Education, 2015).

These movements, in addition to others, serve as a reminder that all students learn differently. They challenge educators to reach out to each student's personal experiences and learning goals. Demski (2012) states in part, that student-centered teaching and learning models acknowledge and accommodate the ranges of abilities, prior experiences, needs, and interests of each student--with the goal of moving every student to a higher standard of achievement.

Educational reform is a broad framework that encompasses any change in the way a school or school system functions. Educational reform may focus on teaching and learning strategies, accountability, funding, or a variety of other topics. The United States has seen three large educational reform waves and numerous smaller ones since the 1970s. In the 1970s, there was the minimum competency movement; in the 1980s and 1990s, there was the standards-based reform movement, and in 2002, No Child Left Behind (NCLB) began (Brookhart, 2013).

The No Child Left Behind (NCLB) legislation was a continuation of the push for improved academic achievement that began in 1983 with publication of the government report, A Nation at Risk: The Imperative for Educational Reform. This report indicated that American public schools were in danger of not preparing students to compete in the 21st century. Reaction to that call for higher standards has taken many forms over the years, such as more academic requirements for graduation, added and continuously changing assessments, and the standards and accountability movement of today. Some educators believe that when the United States Department of Education launched the Race to the Top-District grant program in 2012, which emphasized personalized learning, the next educational reform movement began (American Institutes for Research, 2013).

The preceding educational reform movements generally spanned ten to twenty years in the United States (Brookhart, 2013). The minimum competency movement grew from public

concern over declining standardized test scores and high unemployment rates among young people (Brookhart, 2013). The minimum competency movement was considered a back to the basics movement which focused on reading, writing and arithmetic (Brookhart, 2013).

When *A Nation at Risk* was published in 1983, it reported that United States students were falling behind foreign students in math and science (Brookhart, 2013). This led to the development of the standards based movement, as well as increased accountability to schools and school districts to increase student performance.

The standards-based reform movement is considered by most researchers to have begun during the late 1980s and continuing through the 1990s. According to Brookhart (2013), "public concern shifted from minimum competency in basic skills to higher standards and assessment that required higher-order thinking skills and complex performances" (p. 59). In January 2002, the No Child Left Behind Act (NCLB) was signed into law by former president George W. Bush. Until December of 2015, NCLB legislation was considered the most recent reauthorization of the 1965 Elementary and Secondary Education Act (Brookhart, 2013). The No Child Left Behind legislation was similar to the original Elementary and Secondary Education Act of 1965 except it added three new areas of emphasis, student testing, high quality teachers, and research-based programs (Brookhart, 2013). No Child Left Behind requires all students to be tested in grades three through eight, as well as some high school classes and scores must be reported to the federal government (Brookhart, 2013). Schools not meeting the required achievement levels set by NCLB receive sanctions which include accreditation and funding.

According to The U.S. Department of Education website, the Every Student Succeeds Act (ESSA) was signed by President Obama on December 10, 2015, and represents good news for our nation's schools. This bipartisan measure reauthorized the 50-year-old Elementary and Secondary Education Act (ESEA), the national education law and longstanding commitment to

equal opportunity for all students. The new law builds on key areas of progress in recent years, made possible by the efforts of educators, communities, parents, and students across the country.

The previous version of the law, the No Child Left Behind (NCLB) Act, was enacted in 2002. NCLB represented a significant step forward for our nation's children in many respects, particularly as it shined a light on where students were making progress and where they needed additional support, regardless of race, income, zip code, disability, home language, or background. The law was scheduled for revision in 2007, and, over time, NCLB's prescriptive requirements became increasingly unworkable for schools and educators. Recognizing this fact, in 2010, the Obama administration joined a call from educators and families to create a better law that focused on the clear goal of fully preparing all students for success in college and careers (U.S. Department of Education, 2016).

Educational Reform through Race to the Top

In 2012, the United States Department of Education launched a grant program called Race to the Top-District (RTT-D). Race to the Top-District is a competitive grant program that invited school districts from across the United States to demonstrate how education could be personalized in their schools (U.S. Dept. of Education, 2012). One of the fundamental requirements for any school district applying for the competitive grant was the ability to show how the district would create a personalized learning environment (U.S. Dept. of Education, 2012). Nationwide, 370 school districts applied for the competitive grant during the first round and 16 received grants (American Institutes for Research, 2013). Several states including New Hampshire, Vermont and others have also made personalized learning a part of their educational platform (U.S. Dept. of Education, 2012).

Closing Northwest Arkansas' Skills Gap through Personalized Education

According to Daggett's (2008) work, *Jobs and the Skills Gap*, if the United States wants to remain competitive in a global marketplace, we must have a competent and innovative workforce. Daggett (2008) stated that the U.S. K-12 education system was not getting the job done in preparing students to be globally competitive. American businesses have indicated they believe less than half of students graduating from high school are equipped with important workplace skills in oral and written communication, critical thinking, and problem solving (Junior Achievement, 2013).

The academic skills demanded by many entry-level jobs today are as high or higher than the academic skills required for postsecondary education (Daggett, 2008). Yet, our schools continue to focus on getting students ready for college as the ultimate academic preparation, despite the fact that for three decades, business has led the charge for higher academic standards because schools are turning out young adults without the academic skills needed to succeed in the workplace (Daggett, 2008). Daggett further states that in 1983, and today the need for change has been voiced largely from the business community, and higher education. This statement echoes the call of business as it continues to feel firsthand the skills gap between what students are learning in school and what they actually need to be competitive in the high-tech, global economy (Daggett, 2008) which has created movement in educational reform efforts at both state and national levels.

In an interview with the Huffington Post, Charles Fadel, founder of the Center for Curriculum Redesign, asserts that employers have to remain involved in the educational process to make their needs heard. Further, Fadel states that employers need employees who can think critically, work creatively, effectively communicate and collaborate to solve problems.

Employers want to hire people with 21st-century skills and they cannot find enough qualified candidates. The disconnect, according to Fadel, is that our education system's emphasis has been for college entrance requirements via tests such as the SAT, which are partially obsolete, and never reflected particularly well the needs of employability (Rubin, 2016). Given the continuous transformations in the workplace, educators and employers must work more closely than ever before to bring relevance to the classroom and determine the most effective ways to close the increasingly widening education-to-employment gap.

Even though the Great Recession officially ended several years ago, U.S. unemployment rates remain stubbornly high, in part, because employers cannot find sufficient numbers of qualified workers, especially in the fields of computer technology, nursing and high-skill manufacturing (Kochan, Finegold & Osterman, 2012). Other jobs that are hard to staff are those which require postsecondary, technical education and training. Annually, the Manpower Group, a human resource consultant agency, conducts a worldwide Talent Shortage Survey. In 2013, 35 percent of 38,000 employers worldwide reported difficulty filling jobs due to lack of available talent (Bessen, 2014).

This trend is noted locally through workforce analysis conducted by the Northwest Arkansas Council. In the planning stages of the Don Tyson School of Innovation, the Northwest Arkansas Council, a non-profit organization, conducted regional studies to determine employment needs, trends, and potential misalignments between public schools and industry needs. Northwest Arkansas regional business needs through the year 2020 were clearly defined. A survey of 140 Northwest Arkansas regional human resource professionals indicated that 54 percent of respondents had difficulty filling positions. Further, the following fields in Northwest Arkansas were noted to have difficulty in filling open positions: Business and Financial, Technical including Information Technology and Healthcare, Teachers, Skilled Production,

Transportation and Logistics and Construction fields (NWA Employer Retention and Expansion Surveys, 2014).

The 2014 Northwest Arkansas Council study confirmed the desired traits sought by employers include strong academic skill attainment and highly sought after executive workplace skills. Northwest Arkansas regional employers indicated that highly valued employees would have skills that included honesty, integrity, dependability, positive attitude, energy, work ethic, teamwork, problem solving, verbal communication, and professionalism (Northwest Arkansas Council; Table 2). This finding supports the need of whole student education and real-world interaction and professional experience prior to graduation.

Table 2

NWA Workplace essential skills by wage 2014

Under $12 per Hour	**$12-$20 per Hour**	**Over $20 per Hour**
Honesty/ Integrity	Honesty/ Integrity	Honesty/ Integrity
Dependability	Dependability	Dependability
Positive Attitude/ Energy	Positive Attitude/ Energy	Positive Attitude/ Energy
Work Ethic	Work Ethic	Work Ethic
Customer Service	Teamwork	Teamwork
Professionalism	Professionalism	Verbal Communication
Verbal Communication	Verbal Communication	Professionalism

(Northwest Arkansas Council, 2014)

As indicated in Table 3, the Northwest Arkansas region is in a state of great need as it strives to fill vacant business and industry positions. Filling vacancies must not only include filling new positions, but also filling positions continually vacated by retiring and transient

members of the Northwest Arkansas workforce. This data, in addition to the projected job growth and replacement rates indicated in Table 3, calls upon educators to incorporate both strong academic and essential workplace skill sets in order to appropriately prepare students.

Table 3

NWA 10-Year Projected Job Growth and Replacement Rates

Occupation	Growth	Replacement	Total
Sales and Related	4,816	7,855	12,671
Office and Administrative Support	5,781	8,197	13,978
Business and Financial Operations	2,606	2,583	5,189
Management	2,604	3,386	5,990
Healthcare Practitioners and Technical	2,864	2,037	4,901
Computer and Mathematical	1,633	1,042	2,675
Architecture and Engineering	622	797	1,419
Life, Physical, and Social Science	284	432	716
Education, Training, and Library	2,736	3,074	5,810
Transportation and Material Moving	3,757	4,910	8,667
Installation, Maintenance, and Repair	1,676	1,976	3,652
Construction and Extraction	2,361	1,435	3,796
Production	**2,273**	**4,920**	**7,193**

(U.S. Bureau of Labor Statistics, 2015)

As schools and districts within the Northwest Arkansas area work with students in developing strong academics and essential workplace skills, they must also take into consideration the desires of each student. Individual desire fuels student ownership of the learning process and contributes to personalized learning. Educators understand that one pathway does not meet the academic and career aspirations of all students, and they must offer an accurate picture of required training and wage opportunities for students of all career pursuits. Figure 3 illustrates the average wage opportunities and correlated training levels in the Northwest Arkansas region as of 2014.

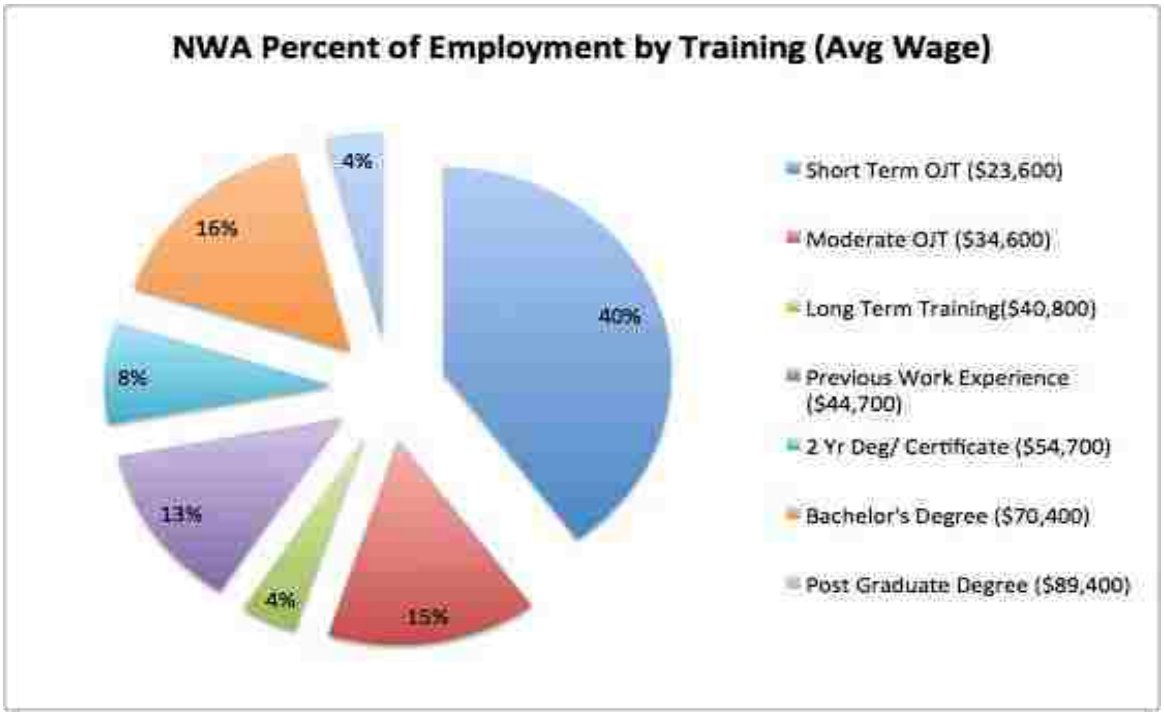

Figure 3. Northwest Arkansas employment by training area and average wage. (Northwest Council, 2014).

Table 4 highlights career and technical education program completers within the Northwest Arkansas region as compared to the current workforce demands facing our regional economy. This information provides a closer look at how schools and businesses can work together to inform students about employment opportunities upon graduation. Furthermore, the numbers reflected in Table 4 offer opportunity to help bridge the gap between regional industry and K-12 educators as they prepare students to fill these positions.

Table 4

Northwest Arkansas Career and Technical Completers and Openings 2014

Completions vs. Openings, 2014 NWA Metro			
Program	2013 Completions	2014 Openings	Median Hourly Wage
Business Management, Marketing and Related Support Services	1,439	8,148	$20.85
Health Professions and Related Programs	984	2,390	$26.50
Computer and Information Sciences and Support Services	112	878	$31.89
Education	492	682	$22.28
Construction Trades	0	979	$15.86
Mechanic and Repair Technologies/ Technicians	50	548	$16.65
Precision Production	21	209	$15.62
Transportation and Materials Moving	0	1,238	$16.75

(2014, Northwest Council)

After further analysis of employment trends within the Northwest Arkansas Region, the Northwest Arkansas Council identified the following major challenges to address in creating a better prepared workforce for the region:

1. Meeting the demand of growth
2. Automatization of industry
3. Maintenance of industry machinery
4. Industry growth versus trained workforce
5. Lack of education concerning careers available

Business, Industry and Postsecondary Needs: Personalizing through Partnership to bridge the Skills Gap

Today, high school graduation rates are at all-time highs. Dropout rates are at historic lows. More students are going to college than ever before. These achievements provide a firm foundation for expanding educational opportunity and improving student outcomes under ESSA. Although it is noted that we as a country have more students attending college than ever before,

which in itself is an accomplishment, the same cannot be said for college graduation or employee hires and retention in Northwest Arkansas.

A 2013 Chronicle of Higher Education analysis confirms that out of 11,582 Arkansas college students observed, only 20.6 percent graduated college within a 4-year period, while only 39.7 percent graduated within 6 years of study. These numbers, when compared to a national average of 33.3 percent graduation after 4 years of study, and 57.6 percent graduation after 6 years of study, place Arkansas graduation rate above only Alaska, and the District of Columbia. The University of Arkansas in Fayetteville has the highest graduation rate in Arkansas, with 36.7 percent of students graduating within 4 years of study, while 60.1 percent graduate within 6 years (Chronicle of Higher Education, 2013).

This success rate poses questions as to the readiness of students. Are students academically prepared to enter the college environment? Do students have appropriate support and background understanding to plan for a degree program? Within the broad educational reform framework is a paradigm referred to as 21st Century Skills. The 21st Century Skills are aptitudes necessary for school and life success in an increasingly digital and connected age; they include digital literacy, traditional literacy, content knowledge, media literacy, and learning innovation skills (Saavedra & Opfer, 2012). Karen Cator (2010), the director of the Office of Educational Technology at the United States Department of Education states, "Success in the 21st century requires knowing how to learn. Technology allows for 24/7 access to information, constant social interaction, and easily created and shared digital content. In this setting, educators can leverage technology to create an engaging and personalized environment to meet the emerging educational needs of this generation" (p. 32).

Other college and career readiness indicators include workplace skills of cooperation, collaboration, creativity and critical thinking (Willian, 2014). According to this study, these

skills prepared students to work in groups as effective team members, a skill sometimes overlooked in high school curriculums. Mason (2012) suggested that career and technical education centers should focus on developing leadership, social interaction and public speaking skills just as fervently as academic and vocational lessons. According to Ken Kay (2011) as cited by Willian (2014), schools must focus on seven distinct steps to fully prepare graduates in today's world: the traditional three "R's" of reading, writing and arithmetic, and the new four "C's" of cooperation, collaboration, creativity, and critical thinking.

A study conducted by the U.S. Bureau of Labor Statistics' Current Population Survey, which tracks data for full-time wage and salary earners age 25 and over, indicates that there are strong correlations among educational attainment, income, and unemployment. Shortages of workers are already undermining U.S. competitiveness and causing firms to shift their operations abroad. Figuring out how to train people to fill those well-paid jobs could help remedy the wage stagnation gripping the country and close the growing gap between high- and low-income households.

Figure 4 illustrates employment and wage data from the Northwest Arkansas region by county. These data are used as a resource in assisting schools in working with regional business partners as well as informing college and career orientation and readiness programs. Bureau of Labor and Statistics data can be found based on mailing zip code and is regularly revisited by district leadership.

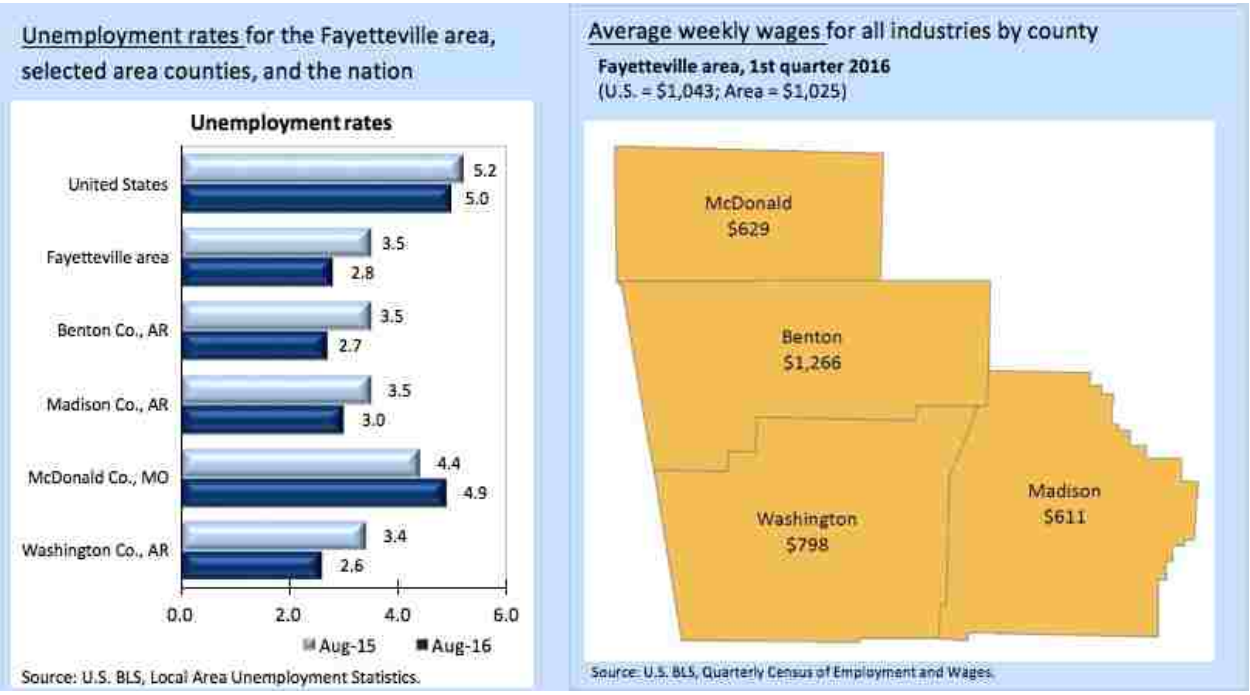

Figure 4. Northwest Arkansas unemployment and average weekly wages by county.

Yang (2013) asserts that that we as a country have a jobs gap – not enough jobs for the number of job seekers. This may be true, but there is also a skills gap, as well as lack of appropriate employees and skill sets for the careers in need. Employers report frustration at not finding skilled workers; according to the Manpower Growth 2012 Talent Shortage Survey, 49 percent of employers struggle to fill jobs. Current job seekers lack the right skills (Yang, 2013). Further argument can be made that graduates complete programs of study that do not lead to employment within this region. A survey from CareerBuilder suggests that many Americans never work in the field that they prepared for in college. Among the 2,134 workers surveyed, 47 percent of college graduates did not find a first job that was related to their college major. Additionally, 32 percent of college graduates said that they had never worked in a field related to their majors (O'Shaugnessy, 2013).

The disconnect between educators and employers provides insight into one source of this problem. While 72 percent of educational institutions believed recent graduates were ready for

work, only 42 percent of employers agreed, according to a 2013 McKinsey study (Mourshed, et. al, 2013.) King (2015) stated that the very skills needed for workforce success were the same skills graduating students lacked — such as analysis and problem solving, collaboration and teamwork, business-context communication, and flexibility, agility, and adaptability. Underscoring this point, 71 percent of corporate recruiters indicated that finding applicants with sufficient practical experience was their greatest challenge when recruiting from higher education institutions.

Part of the problem may be that traditional educational institutions were not designed for a fast-changing market where skills need to be updated regularly (Yang, 2013). Many students are not prepared for college when they graduate high school, nor are they prepared to start a career in today's workplace. Universities were not designed to change curricula and introduce new classes at the pace required by changing industry requirements. Exacerbating this problem is the fact that we now live in a world in which half of today's jobs didn't exist 25 years ago. The good news is that we can close the skills gap if job seekers and employers work together. (Yang, 2013).

Schools and employers are joining forces to insure that all students are prepared for life after high school, to equip them with the skills needed to embark on a successful career path if their plans do not include college. The state's business community, particularly those companies in STEM-related industries, science, technology, engineering and mathematics, plays a critical role by connecting educators and students to the career skills and resources needed today and in the future (NC New Schools, 2016).

According to Brookhart (2013), most local business are eager to get involved because high school students are their future workforce. Businesses work to develop programs in the

schools that prepare students for specific jobs in their company. According to the 2013 McKinsey Study, innovative and effective programs around the world have the following important elements in common:

Educators and employers actively step into one another's worlds, working collaboratively on curriculum design to provide real work experiences, opportunities for possible employment upon graduation, and jointly, shared, early and intense interventions (Mourshed et al, 2013). Creating a successful education-to-employment system will require new incentives and structures. The education-to-employment system needs to operate differently, in three important ways: stakeholders need better data to make informed choices, parents and young people need data about career options and training pathways and partnerships provide mutual benefits which are designed to improve the quality of education of all students (Mourshed et al, 2013).

Boosting the value of today's higher education system and, most importantly, preparing students for life after graduation means adopting a more practical and applied approach to education, i.e., providing experience-based and practical learning to address the current performance gaps (King, 2015). Ongoing partnership development between academic and private sectors is critical in creating a more valuable education for students. These partnerships can be found in multiple forms and allow students to find personal meaning and career ties within their education.

Moving from Teacher Centered to Student Centered through Anytime, Anywhere Instruction

The value of personalizing the learning experience is well established: Research shows that individually tutored students perform two standard deviations higher than 98 percent of their traditionally taught peers (Childress, 2012). U.S. public schools have been largely impervious to the productivity gains that other sectors have realized from technology (Childress, 2012).

According to a 2002 Commerce Department study, education ranked last in deployment of technology relative to number of employees. This study further found, that in many instances where technology devices were deployed appropriately, often they were not being used to do anything differently.

Various proponents fueling the educational reform movement emphasize transition from traditional methods of instruction to methods that incorporate technology and personalized learning. Dr. Arne Duncan, former United States Department of Education Secretary, the American Institutes of Research, educational leaders, educational agencies, and educational foundations have proposed a personalized learning environment as a better alternative than traditional methods of instruction. A growing number of free resources are becoming available online, the most prominent of which are the 2,700 short video lessons produced by Khan Academy, which began in 2004. Three million unique users access Khan Academy every month, and teachers in 10 school districts are piloting Khan Academy content in classrooms this year, assigning the video lessons for homework and thereby freeing students to focus on deeper learning in the classroom (Childress, 2012).

As digital offerings evolve, Americans are using more technology in their daily lives (Duncan, 2013). Digital delivery of education is an emerging but not entirely new development. However, its uses are rapidly evolving and becoming a major component of personalizing the learning process. According to Hill (2012), early internet course delivery started in 1994 and was soon followed by a more structured supporting role to personalized learning through course management, and currently, student management systems. Hill (2012) further states that since that time, online education has continued to grow in popularity, to the point that in the fall of 2010, almost one-third of U.S. postsecondary students were taking at least one course online.

Arne Duncan, the past United States Secretary of Education, supports that schools should utilize technology more in their instruction methods (Duncan, 2013). The National Education Technology Plan, which was released by the United States Department of Education in 2010, also stressed the use of technology in education and proposed using technology to promote personalized learning (Vander Ark, 2013).

The former Obama administration, along with the United States Department of Education, laid the foundation for The Race to the Top-District Grant Program in 2012, which emphasized personalized learning environments (American Institutes for Research, 2013). At the state level, some state departments of education have made personalized learning a part of their state educational platforms. Some educational groups and foundations like Re-Inventing Schools Coalition (RISC), the Stupski Foundation and the Bill & Melinda Gates Foundation are also pushing for personalized learning to become a widespread reality.

Springdale, Arkansas: Race to the Top-District

The Race to the Top-District grant program in 2012 came on the heels of the larger national reform initiative Race to the Top in 2009. Race to the Top-District, like the larger state level program, intended to motivate innovation to improve student achievement (American Institutes for Research, 2013). According to the American Institute for Research (2013), "The Race to the Top-District" program is unique in its direct focus on accelerating locally directed efforts to improve teaching and learning by personalizing the educational environments for students and educators (p. 2). A total of $400 million was awarded to 16 districts through Race to the Top-District grants (McNeil, 2013). The 16 districts had vastly different approaches, but all shared similar tactics: mobile devices and individualized learning plans, personalized learning coaches for teachers, and data dashboards that collect all student learning information (McNeil, 2013).

The American Institutes for Research analyzed the four main activities that all 16 district applications addressed:

1. Creating and implementing blended learning environments
2. Developing and using individualized college and career readiness learning plans
3. Implementing competency-based models to support and accelerate students' progress through their learning plans
4. Engaging and empowering key stakeholder groups, including teachers, parents, and the broader community in the process of ensuring student success (American Institutes for Research, 2013, p. 1).

The Springdale school district was the top recipient of the Race to the Top grant in 2013, benefiting the district push toward personalization of learning and multiple pathways toward graduation. The application submitted included 11 key projects including:

- Project 1 - Seat Time Waiver Pilot

  In a competency-based progression (CBP), schools must show that students are advancing, not just demonstrating growth in learning, but also demonstrating competency in the understanding and application of content knowledge.

- Project 2 - Schedule

  Springdale School District proposed to convene a schedule project team to research and develop a new bell schedule to better support the projects under RTT-D. The team will identify what is working and needs to change for increased student achievement. The new bell schedule will prioritize flexibility for personalized learning, build time for teacher collaboration, dedicated advisory time for enhanced college and career goal development.

- Project 3 - Advisory

  Dedicated daily advisory time ensures that every student is known well by at least one adult in the school. Advisory time will be used to complete personal learning plans (PLPs), to prepare for student led conferencing (SLC), and to conduct college

and career-ready planning, such as college visits; building college knowledge about the college application process; college match and enrollment processes; and navigating the financial aid path.

- Project 4 - Personal Learning Plans and Student-Led Conferencing (PLPs & SLCs)

  PLPs will allow for consolidation of numerous efforts at personalizing learning that currently exist at SSD, and PLPs will insure that each student takes full advantage of these personalized supports.

- Project 5 - Multiple Pathways to Graduation

  Springdale School District's systemic commitment to personalizing learning – through the seat time waiver, a new bell schedule, student advisory, and personal learning plans – will lead to multiple pathways to graduation. SSD recognizes that steps to achievement of personal goals may not be fully realized in a traditional classroom setting. Work will include: expanding concurrent enrollment at local postsecondary institutions; expanding career academy offerings; providing field and project-based learning opportunities; and extended learning.

- Project 6 - Centralized Early Learning Center

  Educators in the Early Learning Center will work in PLCs to vertically align the PK and elementary curriculum, including preparing students for the rubric and competency-based model of instruction. The Early Learning Center will be technology enabled. Centralizing the classrooms will allow for more coherent curriculum and instruction. Currently, classes are scattered across the district, and newly renovated space will promote a much-needed improvement to the overall program and expand capacity for students on the waiting list.

- Project 7 - Technology Acquisition and Integration

  SSD will ensure every classroom is technology enabled including a 1:1 ratio of technology device per student. SSD will increase the number of EAST classrooms and eMints trained teachers. Also, a robust new data system with student, parent, and educator access will be implemented with data such as attendance records, behavior referrals, assignment completion, and assessment scores.

- Project 8 - High Quality Professional Development

  SSD will hire Teachers on Special Assignment (ToSA) teams in multiple content areas to work in partnership with experts on curriculum writing. The new curricula will include interim formative assessment systems that allow students to demonstrate mastery of standards at multiple times and in multiple comparative ways. Due to P2 schedule, ToSAs will provide job-embedded professional development. Demonstration classrooms will be open on each school campus. All teachers will have opportunities to observe lessons in these classrooms to advance their practice and give and receive feedback. Educators will have regular opportunities to engage in student-centered common planning time with peers who share students in common.

- Project 9 - Parent Academy

  The Springdale School District is committed to closing the gap between parents who routinely participate in their child's school and those parents who are reluctant or unaware of the need to participate. The district will scale up existing partnerships to create a series of programs for parents known as the Parent Academy. The purpose of the Parent Academy is to build advocacy skills for parents so that they can more

meaningfully participate in the academic life of their children. An additional 5 sites will expand the very successful Family Literacy Program model.

Parents will have access to seminars that better prepare them to meaningfully participate in SLCs and assist their children in establishing and monitoring goals set forth in their PLPs. Parents will have access to programming on college and career-readiness that mirrors the content students receive in advisory.

- Project 10 - Strengthening Professional Learning Communities

  Educators will have access to opportunities to build capacity in their collaborative skills and practices in order to more effectively contribute to their PLCs. Structured support will be provided to learn the concepts, habits, tools and skills that lead to reflective practice and facilitative leadership. A district team will meet to create a district handbook that outlines the expectation and parameters of PLCs in SSD.

- Project 11 - Educator Evaluation & Coaching

  SSD will partner with a national expert in school reform and an expert evaluation and research group to provide critical coaching for and evaluation of our implementation of grant projects. As partners in our work, they will provide support in the sum of $25,878,038 (Jones, 2013).

Chapter Two Summary

The personalization of learning is both site and situation specific. In the case of the Springdale Public School District, the personalization efforts serve as means of flexibility in learning pace and place and as a vehicle to serve students. Topics addressed within the review of literature included: Overview of personalized learning, foundations of personalized learning, defining personalized learning, personalization through technology, personalization through anytime, anywhere digital learning, personalization through blended learning environments,

personalized learning through competency and educational reform efforts, educational reform through race to the top, closing northwest Arkansas' skills gap through personalized education, business, industry and postsecondary needs, personalizing through partnership to bridge the skills gap, moving from teacher centered to student centered through anytime, anywhere instruction, and Springdale, Arkansas' role as a Race to the Top district.

Chapter Three: Research Design

Introduction and Overview

The purpose of this study was to describe the college and career readiness of the Don Tyson School of Innovation students as perceived by members of Northwest Arkansas' business, industry and post-secondary institutions. Further, this study examined Northwest Arkansas business, industry and post-secondary leaders' perceptions of Don Tyson School of Innovation students' college and career readiness. Through the inclusion of business and industry partners, this study ascertained needs of executive skills, traits, and scholastic experiences deemed necessary by regional business and industry members as well as perceptions of student readiness based on the DTSOI's personalized academic model and offerings.

Due to the nature of this study, the uniqueness of the school, and delivery model in place, the approach was a qualitative study utilizing perceptual surveys, interviews, observation and reaction journaling. Qualitative data were collected in the form of survey data, semi-structured interviews, observational notes and reaction journaling. Information gathered reflected business, industry and post-secondary stakeholder perceptions of DTSOI students' college and career readiness as a result of their participation in the personalized learning system at DTSOI.

This qualitative study provided insight into the perceived college and career progress and experiences of the participants in the Springdale School of Innovation as they met students and experienced the learning environment on campus. Creswell (2007) states "case study research involves the study of an issue explored through one or more cases within a bounded system (i.e., a setting, a context). Cresswell (2007) further describes case study as a methodology, a design type in qualitative research, the object of the study, as well as a product of the inquiry. Case study research is a qualitative approach in which the investigator explores a bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection

involving multiple sources of information (e.g., observations, interviews, audiovisual material, and documents and reports), and reports a case description and case-based themes. The bounded system in this study will be the stakeholder exposure to, and perceptions of a newly constructed program and perceived college and career readiness of students displayed through the personalized learning environment of the Don Tyson School of Innovation.

Research Questions

1. What are Northwest Arkansas business, industry and postsecondary leaders' perceptions of students from the Don Tyson School of Innovation, with respect to whether the personalized learning environment effectively prepares students for academic success?
2. What are Northwest Arkansas business, industry and postsecondary leaders' perceptions of students from the Don Tyson School of Innovation, with respect to their ability to demonstrate career readiness and fill positions as future employees in local businesses?

Audience

It is my belief that the findings of this study stand to serve as a potential starting point, and model for replication within the educational field as it pertains to the personalization of learning, business, industry and post-secondary partnership development, and college and career readiness programming initiatives. Findings can contribute to bridging the gap between K-12 education and post-secondary/ business partnerships as they apply to local, regional, state and national levels.

State level education departments may benefit from this study by exploring the perceptual feedback of business, industry and post-secondary participants and offering larger opportunities for partnership. These opportunities could lead to greater application of learning, modification

of career training pathways, earlier access to college coursework, induction training for college and career-bound students, and teacher training opportunities. Due to the unique nature of the DTSOI instructional model and the flexibilities offered to the program through the use of state department of education waivers, the findings of this study could also provide foundation for further discussion of waiver implementation because of waivers afforded to this campus. Post-secondary and workforce members could benefit from this study's findings as they attempt to hire more highly trained employees, and better prepared students. Post-secondary teacher and administrator education programs may also benefit from the findings of this study by gaining understanding of what personalized instruction looks like in the field, thus making modification to teacher and administration preparation programs in preparing teacher candidates for this model.

Research Sample

This study selected participants through purposeful sampling. Bloomberg and Volpe (2012) point out that purposeful sampling allows the selection of "information rich cases, with that objective of yielding insight and understanding of the phenomenon under investigation" (p. 104). Bloomberg & Volpe (2012) state case study involves detailed description of a setting and its participants and requires purposeful sampling strategies of participants (p. 31).

Regional employer surveys were disseminated in partnership with the Springdale Chamber of Commerce, and the Northwest Arkansas Council membership to ensure responses that detailed skills critical for graduating students from as many regional stakeholders as possible. Further, semi-structured interviews were conducted with partners having personal experience and interaction with SOI students to gather perceptual data regarding student readiness.

Participants

Interviewees included ten members of the Northwest Arkansas business, industry and post-secondary communities. More specifically, there were seven members of the business and industry community in the Northwest Arkansas region and three representatives from regional post-secondary institutions. They were selected based on previous interaction with DTSOI students in one of the following environments:

- Participation in Real World Wednesday, a weekly program created by the DTSOI to infuse business and industry awareness into the secondary curriculum that invites regional business and industry members to speak with students regarding careers, trends, needed skills and educational levels.
- Participation in the DTSOI college, career fair and mock interview opportunities
- Participation in DTSOI career and technical advisory programs
- Membership in the Springdale Chamber of Commerce
- Membership in the Northwest Arkansas Council
- Participation in DTSOI campus tours

Data Sources

Contextual, demographic, perceptual, and theoretical knowledge are the four types of information that are necessary for most qualitative studies (Bloomberg & Volpe, 2012). Table 5 shows the types of information that needs to be collected for this study, why the researcher needs these types of information, and the method by which each type of information will be collected. The validity, meaningfulness, and insights generated from qualitative inquiry have more to do

with the information richness of the cases selected and the observational/analytical capabilities of the researcher than the sample size (Patton, 1990, p. 185).

Table 5

Overview of information needed

Type of Information	What the researcher requires	Method
Contextual	Northwest Council Workforce Trend Data Business and Industry Partner Perceptual Data	Workforce Needs Reports
Demographic	The study will include Springdale School District student demographics.	Review of district demographics
Perceptual	Perceptual data regarding School of Innovation will be generated from business and industry partner surveys and semi-structured interviews	Surveys Interview Transcripts Observational Notes Reaction Journaling
Theoretical	What is known about personalized learning	Review of the Literature Data Analysis

Qualitative data were collected through the use of survey, semi-structured interview, observational field notes and journal entry. Surveys were issued to members of business, industry and post-secondary institutions that participated in a speaker series called “Real World Wednesday”, a program on the DTSOI campus allowing members of Northwest Arkansas employers and post-secondary institutions to interact and speak with students weekly regarding workforce opportunities, needs and post-secondary options. Additionally, surveys were issued to participating business, industry and post-secondary members who participated in career fair activities at the DTSOI in which members toured, interacted with, and provided mock interview sessions with DTSOI students. Participants completing surveys or semi-structured interviews, would have spent three hours, at minimum, with groups of students in the Real World Wednesday sessions consisting of 2 groups of 30 students, engaged in in-depth, interactive conversation. Throughout the career fair and mock interview sessions, business, industry and

post-secondary participants would spend 30 minutes with students on a 1:1 level in authentic interview sessions with feedback at the mock interviews conclusion.

In conjunction with either of the aforementioned events, business, industry and post-secondary members are invited to participate in building tours in which community members become acquainted with the DTSOI environment and instructional program. This tour also provides community members the opportunity to observe students in their academic environment and engage with them in dialogue.

Data Collection Methods

The first action of the study was to distribute the survey instrument to business, industry and post-secondary participants. This tool provided a baseline of regional workforce needs, trends, and perceptions within the Northwest Arkansas region as to the perceived college and career readiness levels of DTSOI students. Survey participants were selected as a result of participating primarily in DTSOI career fair and mock interview opportunities. Through these interactions, members of business, industry and post-secondary institutions had the opportunity to interact 1:1 with DTSOI students in a career employment or college enrolment interview setting. Prior to the career fair and mock interview sessions, participants were allowed to tour the campus as Survey participants remained anonymous to encourage honesty without fear of repercussion for involvement in the study. As participants participated in campus tours, Real World Wednesday, DTSOI career fair, and mock interview experiences, I used observational field notes and journaling to further provide additional data to describe business, industry and post-secondary representative interactions and experiences with DTSOI students.

Business, industry and post-secondary participants had multiple opportunities to interact with and observe DTSOI students in their academic environments. These tours were

unstructured, allowing participants to interact with students, observe lessons and student working sessions. Participants asked students questions at their discretion and inquired about program offerings, courses, career opportunities, college offerings and workplace skill development. Dialogue was not directed, and participants were free to ask questions of their desire. Student/ participant interactions and observations were noted in my observational field notes and journaling. This experience provided authentic feedback pertaining to participant reaction to student commentary and interaction.

The next step was to conduct follow up semi-structured interviews with business, industry and post-secondary leaders as to their perceptions of DTSOI students and their perceived college and career readiness. Their responses provide first-hand perceptual data from Northwest Arkansas business, industry and post-secondary communities, inform program offerings at DTSOI, assist in making connections between students and industry (Northwest Council and Bureau of Labor and Statistics), and illuminate perceived connections between personalized learning and student success in college and career goals.

Throughout follow up interviews, professional protocol was strictly adhered to. Privacy of all participants and their responses was respected and interviewees were informed that participation was not mandatory. All participants were encouraged to share their perceptions fully.

Data Analysis and Synthesis

Prior to analyzing research data, care was taken to ensure proper management of all information gathered, including but not limited to my notes from interviews, participant

interviews and surveys. All participants were informed that data would be secure and utilized only for stated purposes.

Business and Industry partner surveys consisted of Likert Scale questions with added opportunity for open-ended responses. Participants wanting to more fully express their perceptions were asked to participate in an interview. Interviews were recorded on an Apple MacBook Air audio recorder. From there, the audio files (in MP3 format) were reviewed and transcribed. Interview audio files were saved and cataloged by date of interview. Transcriptions of participant interviews were completed using Microsoft Word.

Planning for Analysis

The first step in the analysis was to procure proper data sets. For the purpose of this study the following data were utilized: participant perceptions of workforce and post-secondary needs, executive skill development and opportunities for guiding feedback going forward. Throughout the semi-structured interview process, interview transcripts were created from the interview recordings and were then coded into larger themes as they relate to the research questions.

Observational notes were taken during semi-structured interview sessions as well as during DTSOI tours and career fair and mock interview experiences. Reflection journal entries were made following semi-structured interview sessions, and appropriate first and second-cycle coding methods were used to capture and describe interview themes. Saldana reinforces this need, stating "memo writing serves as a code-and category generating method" (2013, p. 93).

> After initial codes were generated, second round coding was undertaken to coalesce stakeholder perceptions and emerging patterns into broader categories. It was anticipated that interview transcripts would be reviewed "many times, noting emerging patterns or different points of interest each time" (Mears, 2009, p. 123).

Ethical Considerations

This qualitative study was conducted ethically, following all of the guidelines established by the University of Arkansas's Institutional Review Board (IRB). Procedures and data safeguards assured that the privacy and rights of the subjects of the study were protected. Full disclosure of the data that were collected was made to the stakeholders to ensure that they provided fully informed consent. Participation in this study was voluntary and participants were able to withdraw at any time if they chose without repercussion of any kind.

The plan of this study was submitted to the University of Arkansas's IRB and was approved on April 19, 2017. This approval serves as a safeguard for the rights and privacy of the participants. This study posed minimal to no risk to the participants. However, precautions were taken to assure that the rights and privacy of the participants were protected at all times. In addition, this study will be available for every participant to review to ensure that they are being represented accurately.

Issues of Trustworthiness

In this study, I was required to work through several areas of my own subjectivities assumptions, and protections that I, as the founding administrator of this school, might interject. Potential subjectivities to be considered included the fact that I am the founding Principal of the Don Tyson School of Innovation and have been charged in creating a new model of education this study sought to describe. I have grown up in this community's schools; I am the son of this district's Superintendent and have been a highly visible, outspoken educational leader in the ongoing regional reform movements surrounding career and technical education and business and community partnerships. Further, I have been, and am currently the active Principal of the

Don Tyson School of Innovation, and oversee all Career and Technical education programming for the Springdale School district.

Trustworthiness was established through the triangulation of employer and post-secondary surveys, semi-structured interviews, reaction and observational journaling. This study sought to provide rich description and perceptual data of business, industry and post-secondary members of the Northwest Arkansas region as to their perceptions of DTSOI students' college and career readiness. These perceptions reflected participants' perceptions of student college and career readiness as a result of their participation in the DTSOI's personalized learning models through the eyes of regional business and post-secondary members.

Objectivity on my part was critical in this study given my positionality. Multiple reviews of participant perceptual data were conducted as to assure authentic participant perceptual data was reflected without bias. Given my positionality of Principal, efforts were made throughout the survey, semi-structured interview process, career and mock interview procedures and building tours as to not influence the participants' experiences, interactions and resulting perceptions.

Dependability

Throughout the process I frequently reviewed the data that were collected to ensure that the findings were accurately represented. Participating members of the business, industry and post-secondary institutions were presented with a printed copy of their statements to assure validity and accuracy of transcriptions, as well as a copy of my observational journal findings throughout the interview process. All coding and data collected will be shared with, and

available for review by members of the dissertation committee throughout the process to ensure that there are not emergent patterns that were missed, or errors in the coding or analysis of data.

Transferability

Data collected in this study could be potentially transferable to other campuses in Northwest Arkansas attempting to implement models of personalized learning or attempting to build business, industry and post-secondary relationships oriented toward student college and career readiness. The waivers in place at the Springdale School of Innovation, in conjunction with the uniqueness of the instructional program in place make the DTSOI a unique campus, but programs in place could be replicated to serve college and career readiness needs. As the researcher, I will assure accurate data collection and representation of participant perceptual data through the triangulation of survey, semi-structured interview, reaction journaling and peer-review. According to Bloomberg &Volpe (2012), "transferability is about how well the study has made it possible for readers to decide whether similar processes will be at work in their own settings and communities" (p. 113). Transferability is achieved through thick description and richness included in the study (Bloomberg & Volpe, 2012). This study seeks to inform other schools and school districts of the emergence of potential models of personalized learning initiatives, as well as the process of involving stakeholders in the development of college and career readiness programs and the evaluation of whether they are working.

Chapter Three Summary

This chapter provides a detailed description of the methods of this study. Qualitative research methods were used to investigate the perceptions of Northwest Arkansas' business, industry and post-secondary institutions regarding DTSOI students' college and career readiness.

Chapter Four: Research Findings

Introduction

This purpose of this study was to describe the college and career readiness of the Don Tyson School of Innovation students as perceived by members of Northwest Arkansas' business, industry and post-secondary institutions. Through surveys and semi-structured interviews with business and industry partners and post-secondary institutions, this study has sought to describe the Don Tyson School of Innovation's perceived ability to bridge the gap between K-12 education and the needs of regional employers and post-secondary institutions. Using business and industry partners' perceptual feedback, this study describes business, industry and post-secondary education's need for executive skills, traits, scholastic aptitudes and the Don Tyson School of Innovation's personalized learning model's perceived ability to meet those needs. Regional business and post-secondary leaders conveyed their perceptions of student college and career readiness levels based on their own participation in opportunities to meet and interact with the students.

The first section of this chapter offers descriptions of my personal insights and experiences gained throughout this study as they pertain to the research questions. This section is included to describe the first-hand interactions and experiences that shaped and assisted in the identification and interpretation of findings. Included in this section, observational field notes and reaction journal entries are used as reference. Providing a description of personal experiences is recommended in qualitative research (Creswell, 2007; Marshall & Rossman, 2011). The second section of the chapter contains business partner and post-secondary institution representatives' perceptual survey feedback as it pertains to their experiences, interactions and perceptions of Don Tyson School of Innovation students and their abilities to

meet each group's respective needs. The survey instrument included opportunities for open response, Likert-scale, and multiple choice as methods of feedback.

The third section of this chapter provides participant perception as reflected through semi-structured interviews with participants based on their experiences in the Don Tyson School of Innovation and their interactions with students. The survey data are represented by quotations from participant feedback, as well as trends identified by first and second cycle coding. In addition to perceptual survey feedback, interview transcripts were coded using the First and Second Cycle coding methods described hereafter. Codes were then organized into broader themes. These themes were used to describe participant perception and to answer the study's research questions. As a supplement to section three, reaction journaling interpretations provide added supporting information pertaining to participant responses and perceptions.

Description of Researcher's Experiences, Insights and Field notes

In designing the Don Tyson School of Innovation in the summer of 2014, initial work consisted of a series of listening meetings with Northwest Arkansas business, industry and post-secondary leaders. These sessions provided an initial venue for regional stakeholders to openly discuss the perceived strengths and weaknesses of the Springdale School system and needs within their respective areas, as well as their desire for heightened attention to specific regional employment and academic needs. Each side of the discussion listened respectfully, but also offered critical responses from their perspective both within the workplace and within post-secondary classrooms. These early conversations laid the foundation for business and post-secondary partners to provide early needs and expectations for the Don Tyson School of Innovation, and thus, a critical eye, and an agenda to pursue with their perceptual feedback as to the school's progress in meeting regional needs.

Throughout these preliminary planning sessions, much of what was expressed reflected concerns about academic preparedness, but even more so, the inability and/or lack of interest of graduates in pursuing regional career opportunities. The need to personalize each child's learning experience to maximize their potential and productivity was loudly voiced, with much less input as to the way that goal was to be completed. Further, it was loudly expressed by members of both post-secondary and industry communities that our graduates were failing to fill vacant positions within their businesses, as well as failing to complete their college experience in a timely fashion. Much of the conversation voiced by these respective entities reflected the need for executive skill development centered around the workplace essential skills previously described in Table 2.

Although the Don Tyson School of Innovation is only beginning year four of operation, this perceptual feedback will provide a new foundation for the work ahead and will be reflected in the concluding sections. My personal experiences would reflect that the executive skills, including good manners, listening, respect, and many others, are difficult to teach and have long been considered the exclusive domain of parents and families. At the Don Tyson School of Innovation, they are so highly sought after that they command their own category of coursework that is tied into each year of a student's experience in the school.

Essential workplace, or executive skills, are taught through a series of seminar courses beginning with 8th grade students and creating an ongoing training regimen through graduation day. These skills are not only highly sought after by regional employers and post-secondary institutions, they represent the expected difference of DTSOI graduates in the minds of Northwest Arkansas' business, industry and post-secondary communities. Both post-secondary institutions and regional employers noted communication skills as a component of nearly every job in every workplace. Because of the lack of applicants with executive skills, businesses in

recent years have presented this as an area that needs to be taught in the schools causing a national charge for both executive or soft skill development, as well as a resurgence of career skill and technical training.

As previously stated, this thought process is not new and appears to be cyclical as educational practices continue to adapt to current needs. As early as 1918, Charles Riborg Mann reported the results of a survey of 30,000 engineers (7000 responses) as to the most important characteristic for success in the engineering field and the universal response was not 'knowledge of the job,' but rather, 'character.' After extensive consideration of the three top engineering colleges in the country and in light of the survey results, Mann stated that it "is no less obvious that the growth of these essential characteristics in students may be either fostered and encouraged or inhibited and discouraged by the manner in which the school is organized and the subject-matter presented" (Mann, p. 120).

One of the goals upon which the DTSOI is founded is to teach the whole child in such a way that she/he has the entire skill set necessary to be immediately employable. This was the driving mindset fueling many of the preliminary planning sessions for the Don Tyson School of Innovation, and provided many of the survey questions posed to 50 members of the Northwest Arkansas businesses, industry and post-secondary communities upon their tour of, experiences within and interactions with DTSOI students.

Throughout participant tours, and interactions, observational field notes were taken to capture participant reactions and interactions. Field notes and reaction journal notes were also taken during the semi-structured interview process. Upon completion of tours, participants were invited to complete an anonymous survey reflecting their experiences, which captured their perceptions as to whether the DTSOI learning model could effectively meet regional needs in their respective areas.

Student behaviors included a notable speaking posture, hands moving with expression, not resting on their chest or in their pockets. This exhibits comfort and even pride in sharing their stories with the room. As interactions with students concluded, conversation then developed between audience members stating "I wish I could come back to school here"… and "if I had had this kind of opportunity in high school I could have done so much." These comments indicated to the students in the room the unique opportunity they currently have.

Body language of the participants included sitting upright, or leaning forward into the conversation, engaging students to continue sharing their experiences and insights. Students shared their plans of pursuing various workforce pathways of study and their anticipated credentials and capabilities upon graduation, spurring many sidebar conversations within the audience. These conversations were focused on the changes being seen within the workforce and questions then shifted to student desires of transitioning into various fields of employment.

As the session turned into touring opportunities, student tour guides continued to interact with participants, and although I could not observe each student the interactions included lengthy conversations with students and adults. Participants noted upon their exit how impressed they were with student abilities to communicate and interact with such poise and knowledge of the program of the DTSOI. Evidence of executive skill sets continued to be the conversation point with many of the participants, in addition to their growing interest in the program, offering business cards upon their exit asking to be included in school efforts moving ahead.

Summary of Observational Field notes for DTSOI Tour

On May 4, 2017, the Don Tyson School of Innovation was host to members of our Northwest Arkansas Business, Industry and Post-Secondary communities. These events occur frequently on the DTSOI campus at the request of our community. During the event, attendees were given an overview of the instructional program, course offerings and vision for

instructional outcomes. Administrators, teachers and students presented to the group during this process, and students responded to questions posed by the group. At the conclusion of the program, students led members on campus tours and interacted with them further as to their perceptions of the DTSOI program from a student standpoint.

Tour participants eagerly interacted with administration, teachers and students throughout the course of the presentation asking pertinent questions about the accelerated academic programs and career pathways. Specific questions of interest came from members of the medical field in regard to specific training opportunities that could be done in partnership with regional providers as to streamline student placement into their businesses. Audience participation was high, asking questions that seemed to bounce around the room for several minutes after the presentations had ended. As students responded to audience questions, the smiles seemed to grow and spread across the room, seemingly in favor of the communication and interaction capabilities of the students. Each of the students were asked to share intended plans after graduation and regardless of the response, audience members signaled their interest in students by raising their hands, indicating their affiliation with respective areas of education or employment.

Anonymous Business, Industry and Post-Secondary Survey Results

A total of 46 out of 50 participants returned surveys. Survey responses were then categorized to create relationships to the research questions. The received response summaries are presented as follows: Survey participants were selected as they participated in building tours and interaction with Don Tyson School of Innovation students. Their participation in the survey was voluntary and they were encouraged to be honest in their feedback as it would help DTSOI staff continue to refine personalized instructional practices and continue building toward college and career readiness. Participants were asked to reflect upon their experiences and perceptions

of DTSOI students' abilities and the environment in which they learn as well as their own industry needs. The following survey questions and their corresponding data represent these participants' feedback.

What are the workplace readiness or executive skills that are needed in YOUR business/industry/organization/institution?

Workplace readiness skills needed by stakeholders: Good communication, problem-solving skills, willingness to learn, positive attitude, and teamwork/team player, all soft skills, were ranked by most respondents as important skills at their place of work (45, 44, 44, 43, and 43 responses, respectively). Reading, writing, math, and technology skills were ranked by fewer respondents (33, 31, 29, and 28 responses, respectively) as necessary to workplace success at their locations. Because survey results were anonymous, it is not possible to categorize and compare the business type with need for skills considered academic. Nearly every respondent indicated the need for abilities that could be characterized as 'soft or executive skills.'

Which of the following workplace readiness skills were observed among the majority of our students at Don Tyson School of Innovation?

Workplace readiness skills observed by stakeholders: Over the course of the school year, SOI hosts Real World Wednesdays, which enable students to be involved directly with local businesses in a way that gives them practical experience. Other ways local businesses were able to meet and observe DTSOI students include participation in the DTSOI College and Career fair, participation in the Northwest Arkansas Workforce Summit, advisory council participation or touring the DTSOI.

Respondents were asked to identify workplace readiness skills that they personally observed in the students during their contact time. 'Positive attitude' was the most observed

characteristic (39 respondents), followed by ‘good communication skills’ (33 respondents). Perseverance, or grit, as it is known in academic and business circles is the ability to keep on in spite of adversity. Positive attitude is a component of grit (Duckworth, 2016 Grit: The Power of Passion and Perseverance); a can-do attitude when solving a problem imparts endurance and, in the instance of failure, willingness to try again.

What type(s) of personalized learning was offered and/or observed when visiting Don Tyson School of Innovation? How different is the personalized learning from traditional models you have observed?

Personalized learning opportunities observed during on-site visits: The expense of training new hires and keeping them requires that human resources personnel can identify the right person up front according to the Society for Human Resource Management (Feffer, 2016). There is little opportunity for recruiting managers to watch a future employee at work, but experienced HR interviewers know what the people they want to hire should have learned. By asking potential employers to report their observations of specific personal learning experiences taking place, it becomes possible to ask stakeholders whether they think that the ‘ideal’ employee could be among the ranks of students.

Observations of personalized learning in action by the stakeholders included positive interactions between students and between teachers and students, group projects with applied outcomes, capable and friendly student interactions with visitors, and learning that included real life job skills. The DTSOI personalized learning model was considered to be very different from traditional schools by 32 out of the 46 respondents and somewhat different by the remaining14 respondents.

What were some particular observations/perceptions about our students that stood out to you when visiting our school or attending an event at our school?

Perceptions by stakeholders of students: Stakeholders interacted with students in a variety of settings with an array of expectations and overwhelmingly found the students to be friendly, articulate, curious, and well-mannered. Other characteristics that were remarked included student focus and ability to be self-directed. Based on observations by a respondent who participated in the College and Career Day, students were polite but uncertain of what questions to ask. This suggests that students would benefit from preparation prior to attending such an event.

Based on your experience, observation(s), and interaction with students, how does Don Tyson School of Innovation's educational model compare to the traditional school model in preparing students for regional job markets?

Perception of SOI model vs traditional model: As a direct tie to the research questions associated with this study, This question specifically asks participants as to their perception of the DTSOI's ability to prepare students for regional needs as compared to their perceptions of traditional educational models. These responses are summarized in Figure 5. The majority of respondents (33/ 46) indicated that they thought SOI better prepared students for employment in their respective enterprises than traditional schools. Four respondents thought that both traditional schools and SOI prepared students equally well for the regional job market. It would be informative to understand why these respondents found both systems equivalent and whether their choice is informed by their type of enterprise. The remainder (9 respondents) indicated that they could not comment because of lack of information. No one perceived the SOI model as less effective than the traditional model.

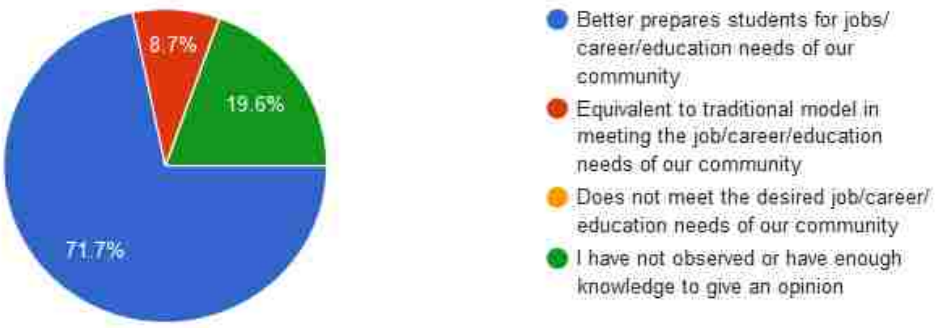

Figure 5. Perceptions of DTSOI in preparing students for workforce.

What are the highly desired occupations/jobs that are needed now and within the next 10 years at your business/industry/organization?

Anticipated occupations/jobs at place of business over the next 10 years: Answers by respondents reflected the diversity of participants' enterprises. The list of responses can be viewed in Appendix E. With few exceptions, the jobs require critical skill sets and many require a certificate or college degree. With only the exception of the jobs typically thought of as manual labor (loading trucks, solid waste operators), the array of jobs will require at least entry-level skill sets and knowledge.

What type(s) of training is needed and/or desired at your business/industry/organization? Which of the following would be desired at your business/industry/organization? If degrees, certificates, and licenses are preferred, which would be desirable for employment?

Type of training/desired training: On-the-job training was indicated by 36 out of 46 respondents as necessary/desired for their enterprises. The need for degrees/credentialing was as follows: Associate's degree (12), Bachelor's degree (26), advanced degree (16), and professional credentials (22). Only one respondent listed 'high school degree.' Further light is shed on training requirements by asking what level of training is preferred (this implies that the level of training is ideal but not essential). Respondents indicated levels of desired training as follows:

Bachelor's degree (38), License (20), Associate's degree (16), Certificate (11), Doctorate (8), None (7), and Master's degree (2). Because responses are not mutually exclusive and are anonymous, it is not possible to further evaluate how many stakeholders indicated that more than one degree and/or credential would be desirable. It can be discerned from some of the open responses that some of the stakeholders are from enterprises that require a degree and subsequent licensure (engineer, CPA) or multiple degrees (psychiatrists, therapists).

How important is work-study, job shadowing or internship experience to the initial employment process?

Previous work-study, job shadowing, internship experience: The majority of respondents ranked the aforementioned experiences a 3 or above (3; 20 respondents, 4; 9 respondents, and 5; 9 respondents). Such experiences suggest initiative and interest, as well as some amount of experience gained. A total of 8 respondents indicated that this type of experience was not important (2; 6 respondents, and 1; 2 respondents).

How important is previous work experience to the initial employment process?

Previous work experience: Participants were asked to rank the importance of previous work experience on a scale of 1 to 5, with 1 being not important and 5 being very important. Just over half of the respondents (24) ranked previous work experience as a 3, which could be interpreted as somewhat important. For nine respondents, previous work experience was considered important (4) or very important (5). One might infer that without it, an applicant would have a reduced chance of getting the job, but anonymity of survey respondents eliminates the ability to determine why work experience would be essential for a new hire.

Based on your observation of the Don Tyson School of Innovation, how well do you believe the school matches the needs of your business/industry/organization/institution for meeting the needs of preparedness for future employment and/or learning?

Perception of DTSOI's ability to match student preparedness with stakeholder needs: Respondents generally perceive that DTSOI has the ability to prepare students who can meet their employment needs. A total of 24 respondents perceived that students would match their needs well (4; 14 respondents; 5; 10 respondents). However, the rank indicated by the largest number of respondents was 3, which might be interpreted as 'somewhat well matched' or a 'neither/nor' response. Ideally, a follow up question might have asked the respondent to provide additional information if the ranking was 3 or less. Because SOI is still refining its model and students have yet to graduate from the program, stakeholders may be inclined to adopt a wait-and-see approach.

What type of work experience/opportunities could you provide for Don Tyson School of Innovation students, time permitting? Would you be willing to serve on a committee to assist us in advising how we can best prepare students with the skills and training necessary to meet the needs of our community?

Types of stakeholder-provided opportunities for DTSOI students: Seminars and speaking engagements were indicated by 24 respondents as a choice for engaging with SOI students. Interest was also expressed in partnerships with SOI (20), providing opportunities for job shadowing (19), student internships (14), mentoring (9) and work study (8). Thirty-six respondents indicated that they would be willing to consider service on a committee to help determine future directions and endeavors for DTSOI. The responses suggest that there is solid support and interest from community stakeholders and that they are willing to be participants in DTSOI's vision for its students.

Survey Response Relationship to Research Questions

Participant perceptual survey data of the DTSOI's ability to prepare students for regional needs as compared to their perceptions of traditional educational models provided a 71.7% supporting response to DTSOI students' ability to better meet the needs of their business,

industry and post-secondary needs than traditional models of instruction. Another 8.7% of survey participants had the perception that the DTSOI instructional model prepared students at least equally well for the needs of Northwest Arkansas' business, industry and post-secondary needs, offering a total of 80.4% of responses offering support of the personalized learning model of DTSOI. The majority of respondents (33/46) indicated that they thought SOI better prepared students for employment in their respective enterprises than traditional schools. It would be informative to understand why 8.7% of the respondents found both systems equivalent and whether their perception is informed by their type of enterprise, experience, age or other factors. Although (9 respondents) indicated that they needed more information, it is highly noteworthy that even after one visit for some participants, none of the participants perceived the DTSOI model as less effective than the traditional model in student preparation.

Business, Industry and Post-Secondary Interview Perceptions

Introduction

To gain deeper understanding of business, industry and post-secondary members' perceptions of the Don Tyson School of Innovation and its abilities to prepare students for regional college and career needs, 10 representative members of these respective communities were asked to participate in a semi-structured interview. Candidates (7 members of the business and industry communities, 3 representatives of post-secondary institutions) were selected based on their prior experience within the Don Tyson School of Innovation and their interactions with students in the program.

Semi-structured interview candidates were asked about their perceptions of Don Tyson School of Innovation students' college and career readiness. Interview participants had participated in Real World Wednesday activities, DTSOI career fair and mock interview sessions and had spent time touring the DTSOI, observing and interacting with students in their

personalized learning environments. These experiences allow interview participants to speak from their personal experiences regarding student display of college and career readiness, and to provide authentic feedback.

Participant Descriptions

Participant 1

Participant 1 is the CEO of one of Northwest Arkansas' chambers of commerce. Per this participant, regional chambers of commerce have been trying to position themselves over the last three or four years as a conduit between workforce providers, educational providers, and the business community. Participant 1 and his team have spent a great amount of time and effort identifying some of the hurdles that Northwest Arkansas' business community sees, hears and feels on a daily basis. The Chambers of Commerce are dedicated to bridging the gaps noted between education and the workforce. To quote this participant in his introductory remarks, "at the end of the day we are trying to get better opportunities to kids coming out with workforce preparedness; kids that come out of high school…trying to make sure we are giving a better product to the business community for future employment." Participant 1 has been the involved in Northwest Arkansas Chamber of Commerce work since 1995, a span of 22 years, and has assisted in the rapid growth of the business community and has proven to be a partner with the Springdale Public Schools on many fronts over time.

Participant 2

Participant 2 is the director of workforce development for one of Northwest Arkansas' Chambers of Commerce. A major part of her role at the chamber is the implementation of citywide and regional workforce development plans, which include a wide array of goals and objectives. One of those objectives is working closely with regional school districts to modernize vocational education and raise awareness about the different types of companies,

activities, and opportunities. Participant 2 works very closely with the regional school districts, and in collaboration, has produced a career guide magazine that is being used by the schools. Further, she helps bring business representatives into schools and classrooms to speak with groups of students. Participant 2 also guides the Springdale Chamber of Commerce in hosting an annual conference and workforce summit each fall for career and technology education teachers and counselors from the Northwest Arkansas region.

Participant 3

Participant 3 has served in various leadership capacities for the Northwest Arkansas Council since 2014. During that time, participant 3 and Northwest Arkansas Council have advocated for school- businesses partnership, real world ties to learning, credentialing for students, internship opportunities and college planning and opportunities for students. In the years preceding that, participant 3 had interviewed approximately fifteen hundred companies nationally as to their respective needs. This experience offers participant 3 a unique perspective on real world skill development and a perceptual understanding of school-industry partnership development.

Participant 4

Participant 4 is closely tied to career and technical education development within the Northwest Arkansas region. Her work has contributed to high school and post- secondary career instruction and partnership development. Her responsibilities include high school programs and post-secondary training and access to adult education coursework in Industrial Maintenance, Welding, Diesel Technology, Business Systems, Nursing and Cosmetology.

Participant 5

Participant 5 represents post-secondary institutions within Northwest Arkansas. Her work focuses on post-secondary academics and college coursework. Participant 5 and her

representative institution have had ongoing conversations with the Don Tyson School of Innovation in offering concurrent enrollment opportunities and the needed traits of post-secondary success. Participant 5 and her team frequently meet with administrators, counselors, parents, and students and my staff works very closely with the school and enrolling students in post-secondary programs.

Participant 6

Participant 6 represents Northwest Arkansas' high school career and technical education services for the region. Her role allows her to work with all sixteen school districts in Northwest Arkansas, including Springdale and the Don Tyson School of Innovation. She provides administrative support in the relevance, design, implementation and maintenance of career and technical programs. Along with these, her responsibilities include the ongoing maintenance and communications with regional businesses and industry to provide programmatic guidance. Further, participant 6 works very closely with the Northwest Council, regional chambers of commerce, and with business, industry, and the school districts to ensure programs and skills attained are regionally relevant.

Participant 7

Participant 7 is the CEO and President of a Northwest Arkansas manufacturing firm that employs welders and engineers, among many others. The Northwest Arkansas location currently employs approximately one hundred fifty employees, ranging from business staff to engineers and craftsmen.

Participant 8

Participant 8 is the Human Resources Manager for a manufacturing and engineering firm in Springdale, Arkansas. Participant 8 has 11+ years of HR, Employment, and Manufacturing experience. Prior to joining her current firm, participant 8 worked as an HR and Employment

Manager for another regional corporate entity where she was responsible for staffing 16 locations in NWA. She is highly involved in the NWA community and in developing the workforce of tomorrow.

Participant 9

Participant 9 is the president of a national mechanical contracting firm, headquartered in Springdale. Participant 9's firm provides mechanical, electrical, millwright, fabrication, HVAC service, cranes, riggings, robots, and industrial automation to Northwest Arkansas and the surrounding states. Participant 9's firm currently employs over seven hundred skilled trade employees.

Participant 10

Participant 10 is the vice president for talent acquisition in one of Northwest Arkansas largest employers. She has been in her position for over 27 years. She has spent the majority of that time in Human Resourses (HR), most recently as the vice-president of talent acquisition. A local community leader, she is heavily involved in the downtown Springdale alliance, a community group charged with the revitalization of the downtown Springdale area. She serves on multiple Northwest Arkansas service boards and is highly committed to the growth and development of Northwest Arkansas. She is also a parent of two daughters who have attended and graduated from the Springdale school system.

Interview Participant Feedback

Ten participant interviews were recorded, using Audacity for Windows, in a location of the participant's choice. The audio files were transcribed into Microsoft Word files and imported into NVivo Pro for further qualitative analysis.

Initial coding included elements of In Vivo coding as well as Holistic Coding as interview participant responses were analyzed. Saldana (2013) states that "in vivo coding uses

words or short phrases from the participant's own language in the data record as codes (p. 264). Further, Saldana (2013) states "holistic coding applies a single code to a large unit of data to capture a sense of the overall contents and possible categories that may develop (p. 264). Through these initial coding exercises, participant interview feedback led me toward ten major recurring themes or "nodes" as they are denoted in NVivo Pro. From these ten nodes, second-cycle, focused coding was used to further refine these themes into 4 main categories. Saldana (2013) recommends this progression of coding styles, stating that focused coding further categorizes coded data based on thematic or conceptual similarity (p. 264).

Two of the categories focus directly on the research questions posed, while the other two provide participant perceptual feedback of noted differences between the DTSOI and traditional models, as well as providing guiding perceptual feedback for DTSOI going forward. The categories included perceptions of college preparedness, perceptions of career or workforce preparedness, noted differences between the DTSOI and traditional education models, and guiding thoughts for the work ahead. The following feedback is distilled from these coding efforts and is now presented as it relates to the research questions of the study.

Interview Participant Feedback Overview

The following section highlights some of the most notable quotes from the semi-structured interview process. As a form of summary, Table 6 offers an overview of the nodes/ responses received from interview participants. Throughout the initial coding process, interview transcripts were evaluated through first cycle coding efforts, and the emerging themes were then focus-coded into the 4 main categories which correlate to the research questions. Participant statements were reviewed for specific words, phrases and thematic similarities. Through these efforts, initial participant themes are represented in Table 6 below.

Table 6. *Participant Feedback Overview*

Theme	Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7	Participant 8	Participant 9	Participant 10
College	X	X	X	X	X	X	X	X	X	X
Blended Classes		X	X					X	X	
Group Work	X	X	X	X		X	X	X	X	X
Collaboration	X	X	X	X	X	X	X	X	X	X
Culture	X	X	X	X		X	X	X	X	X
Student Centered				X		X		X	X	
Creativity				X				X	X	X
Communication	X	X	X	X	X	X	X	X	X	X
Confidence			X	X	X		X	X	X	X
Enthusiasm			X	X	X	X	X	X	X	X
Engagement	X		X	X	X		X	X	X	X
Workforce	X	X	X	X	X	X	X	X	X	X
Pathways	X	X	X	X		X	X	X	X	X
Skilled Trades	X	X	X	X		X	X	X	X	X
Soft Skills	X	X	X	X	X	X	X	X	X	X
Partnership	X	X	X	X	X	X	X	X	X	X
Problem Solving			X	X				X	X	
Technology	X	X	X	X		X	X	X	X	X
Difference		X	X	X	X	X	X	X		X
Internship		X	X	X			X		X	

From these 16 themes, second cycle, focused coding allowed for the themes represented in Table 6 to be further refined and categorized. In this section, the emerging nodes generated by participant feedback were further coded into main categories of Academic or College Readiness, Workplace readiness including Executive or Soft Skills, Noted Differences of the Don Tyson School of Innovation as compared to traditional learning environments and Guiding steps for further development. This refining of themes is illustrated in Table 7.

Throughout the data coding process, it is notable that many of the responses given could be applied to more than one code. This uniformity of feedback would appear to be positive, given the aspirations for specific instructional outcomes at the Don Tyson School of Innovation. The context of participant responses was taken into full account during second cycle coding to categorize each of the themes or nodes into response categories. According to Saldana (2013), focused coding follows in-vivo, process, or initial coding and further categorizes coded data based on thematic or conceptual similarities. Further, Saldana states that this method of coding is appropriate for virtually all qualitative studies, but especially those which develop major categories or themes from the data (2013). Table 7 describes second-cycle, focus-coding efforts from interview participant feedback. The gray categories in Table 7 represent the over-arching category with which the words or phrases were most closely associated. This effort provides structure by which participant phrases and keywords could be categorized.

Table 7. *Coding of Nodes/ Themes into Categories of Participant Response*

Perceived Academic/ College Readiness
Engagement Associate's Degree Challenge Student Ownership Test Scores Curriculum Cross-Curricular Advanced Concurrent College
Perceived Workforce Readiness
Pathways Credentials Partnerships Internships Technology Responsibility Self-Starter Flexible Project Based Problem-Solvers Free Thinkers Pressure Point Interview Skills
Noted Perceived Differences
Personalized Blended Accelerated Excitement Proud Student-Centered Real-World Cutting Edge Culture Customized Rapport Environment
Guiding Community Assistance
Communication Partnerships Internships Capstone Data Analytics Advisory Promotion Current Labs Higher Ed Adapting Connected Capstone Staying the Course

While Table 7 provides classification for participant feedback, a rich description of participant perceptions is presented by providing specific examples of participant responses. In the following section, selections of participant responses provide authentic perceptual data related to the research questions.

Participant perceptions of Don Tyson School of Innovation

Students' Academic Success

Interview participants had insights in the areas of perceived academic preparation through their interactions with Don Tyson School of Innovation students. Respondents toured the building, audited ongoing courses, interacted with students in classes, projects, lab spaces, one-on-one, and in presentation formats. In interviews with the myself, semi-structured format questions were posed to solicit genuine feedback as to perceived academic readiness directly attributable to participation in this learning model. Responses are included in the descriptions below.

After interview participants interacted with DTSOI students and gained understanding of the DTSOI learning model, participant 3 stated: “When compared to kids that are in more traditional schools, your (DTSOI) kids are outperforming them (Traditional Learning Model Students) on the academic side. I think that is a testimonial to this type of model and I think we should be doing a lot more of this across the country.” Participant 3 continued to make the connection of academics to college preparation and performance by stating that he believes that DTSOI students will all do well in college. He believes they will perform especially well in the technical trades such as engineering and medicine, because those disciplines employ a similar learning model to that of DTSOI.

Participant 3 added, that students graduating from this type of learning environment are going to come out of these types of models and impress college professors and instructors with how far ahead they are in terms of their learning. Participant 1, states when asked about college preparation with DTSOI learning model, “It is a no-brainer that it is going to help them.” Participant 1 continues by stating, “I have to say that it appears, in just my personal experience of being in SOI and seeing the kids and their engagement and the ability of them to focus…parallel that with community conversation I have heard about test scores …you can say it was considerably higher from this environment.” Participant 8 states that there is a difference (between this learning environment versus traditional in regard to college preparation levels). When these (DTSOI) kids get to college, there will be no difference for them.

In her remarks about academic preparation, (Participant 6) speaks to the executive or soft skills of collegiate learning needs, referencing that when they get to college, they (students) have to learn how to budget their time…learn how to study…the right things to do to be successful at higher education. She states, “I did see those activities with DTSOI students and I saw a great display of students taking charge of their learning. They were in charge of how they learned and

when they learned and how successful that they wanted to be. I saw top notch teaching methodologies and the curriculum was at the highest level." Participant 6, makes the connection between student ownership of learning and executive skill display and believes that these skills will serve students well in both their collegiate and workplace success.

In terms of academic preparedness, Participant 2 states that she thinks the learning model and preparation levels are unique compared to traditional models in that students have more freedom and ability to really pursue the pathway that interests them and aligns more closely with their personal goals. From what I gather talking with students there, it really helps them better apply things that they learn in class and can see how that can be used in the real world or in a job someday. Participant 2 continues by stating,

> I think it will (better prepare students academically) because I think they will have a better idea of what they may want to do. If they are going on to college, it will definitely give them better guidance and help them set goals like reaching graduation and what type of degree they want to pursue. If that is not the path they want to choose, again I think they are going to have a much better understanding of the types of opportunities available to them and also have some workplace and industry recognized skills and credentials, and that would definitely give them an edge on the competition."

(Participant 1) concludes his academic thoughts with not only a vote of confidence, but also a guiding premise going forward in stating, "it (College Success) would make all the sense in the world for DTSOI students. I think the problem that you are going to have is the delivery method at SOI may be so far advanced over what higher education and post-secondary vendors and providers now have…it may actually cause a problem when these kids get into a college model that is the old school. They should be prepared to learn more, but I am not sure higher educational facilities, including the big ones, and the small ones, and everybody else have got their hands around this." Building and district leaders have also discussed this notion as they plan and prepare for student transitions into higher education settings. This conversation must be

had in a larger, higher education, setting as to ensure that students' next steps after graduation are not counterproductive of their high school successes at the DTSOI.

Participant Notes of Interest regarding Curriculum and Instruction

Within the context of academic preparation, each of the participants frequently mentioned the noted differences of instruction taking place in the DTSOI versus that of their traditional experiences. Although these quotes may not speak directly to participant perception of DTSOI students' college preparation, it could be hoped that each aspect of the learning process contributes to the end result of college, career and next step preparation of DTSOI students. The following notable quotes contribute to the perceptions of academic preparation of students as offered by interview participants.

Participant 1 offers his thoughts about the relevance of the instructional model in place, stating, "I think it (DTSOI curriculum and instructional model) is better prepared for the real world today. The world today is a lot different than when I went through high school 40 years ago. I think the Carnegie model was probably what we, as baby boomers, needed at that time. We had a lot of conversations and some frustrations, quite honestly, and people my age have a lot of frustrations with millennials and how millennials think and react and the things that are important in today's world are much different. I think this model fits in with that 'new world' thinking and that 'new world psychology' very well. I think that is why you are seeing the engagement that you are seeing."

Participant 4 addresses the noted difference of the learning program and environment by stating:

> "The DTSOI environment is much more like a workplace. It is not like a school. You also see an opportunity here that encourages collaboration; those little nooks and crannies that kids can kind of get together on projects, cross-pollinate with one another in different disciplines. I think that is kind of a bold, new world that we are going to be moving toward. You could have kids from business mingle with kids from engineering. The kids

> from medicine could be mingling with the kids from engineering and business. They are able to understand that the way that modern business works… it is good to be a subject matter expert, but in a corporate environment, there is integration that goes on between multiple disciplines. Typically, successful entrepreneurial companies involve that. You are giving them those opportunities and planting those seeds with them."

As interview participants spoke of their perceptions of DTSOI students and their experiences, the visibility of collaboration and cross-curricular design came to the forefront of their commentary. Many expressed gratitude at the noted change of curriculum and offered statements as to their perceptions of this curricular and instructional change. Participant 4 offered: "One of the coolest things that I am seeing is the cross-curriculum learning that is taking place. Teachers collaborating with the other teachers. At the school of innovation, what I have noticed is that learning is taking place all over the building and not like in a traditional classroom setting. "

Participant 3 also speaks to the value of project-based learning system in place, by stating, "Through the customized project based learning that you are doing there, kids are picking up skills that they otherwise would not pick up in a traditional classroom environment. I am talking about communication skills, being able to work in teams and have the collaboration that we have talked about. It is so important to employers." Participant 3 makes the case that the learning system in place focuses not only on content, but learning as an ongoing process, by stating his perception that it is not about what you learn now, it is about how you learn. His words of support included: "I think the 'how you learn' is much more effective in an environment like this (the Don Tyson School of Innovation)."

In his comments, Participant 1 offers his perceptions of the instructional delivery model at the DTSOI by stating, "I think it is very promising that this non-traditional, work at your own pace type of curriculum is in fact working. Most people do not understand the word 'innovation' and that School of Innovation doesn't mean high-tech, it means that the delivery method is

personalized for each person. When you talk about a school with no classrooms and you talk about community learning… When you walk in and see one of the big learning areas where there may be five teachers standing up teaching simultaneously and the ability of those kids to capture that…and work at their own pace and move forward is just pretty impressive. I think the jury is still out in some cases but I think overall the progress has to be satisfactory and I think probably better than the best case scenario that we would have expected."

Participant Perceptions of Don Tyson School of Innovation

Students' Career Readiness

As previously mentioned, great efforts were made to open avenues of communication with business, industry and post-secondary partners prior to the development of the Don Tyson School of Innovation. The instructional delivery model, the curriculum, instructional design, and career pathways were subject to business, industry and post-secondary community input sessions. Throughout the early community meetings, regional career needs were examined. Needs for employees and necessary traits were elucidated. Post-secondary needs, and executive or soft skill needs were all considered as career readiness skills.

Participant 10 noted that one of her largest immediate observations was the presence of executive skills and how impressed she was to see this in DTSOI students: "I know because I have had teenagers and a lot of kids do not have the soft skills. Parents don't always teach them those things because they think they are getting them at the schools or getting them in college." "The ability of DTSOI students to step up and speak to a stranger that they know is there from a big corporation like Tyson Foods, to shake my hand, look me in the eye, introduce the other students, explain what they are working on and seeing the excitement on their face- Seeing their confidence level, those are the kind of things that you don't typically get from a traditional school. Obviously, that is what the Don Tyson School of Innovation does with the training and

just getting the students comfortable and ready to go to work. You have to have those skills to get a job."

Active engagement and student voice and choice in the learning correlate with executive skill development. These attributes require a deeper level of student ownership in the learning process. In describing her experiences with DTSOI, Participant 10 notes the following: "From my perception, and observations, the students were obviously really engaged in all of the projects that they were working on. I could see and feel more excitement than in traditional classrooms. They really knew what they were doing. Their instructors were very excited. You could feel a good rapport in the classroom. It was obvious that they weren't the least bit intimidated by visitors, knowing that what they were doing was really cool. I want to get more people from Tyson to go tour. Robotics, engineering, industrial, technical, maintenance; we have really got a need for those types of jobs in the workplace."

In addition to executive or soft skill development, the DTSOI course offerings were mentioned as being notable in terms of meeting regional workforce needs. Participant 3 adds, "From a regional job perspective, I think everything about SOI and the delivery model bodes well with the pressure points." Participant 6 adds to this point stating, "When you look at the programs that you are offering at your school, they are a direct correlation with the labor market results when you look at where our shortages are in Northwest Arkansas. These are in the top ten as far as job needs. We have job openings in all these areas. As your students are graduating and either going straight to work or on to post-secondary, you are helping to prepare them in fields that are viable and that there are job openings. Most of them will have a good viable wage. That is what we like to see, those kids having a good living wage to take care of their families and to stay here in Northwest Arkansas while they work and have their families. I love

all of your programs of study and, like I said, they correlate directly with what the needs are in our community as far as labor markets are concerned."

Participant 3 opens the conversation regarding the importance, progress and instructional benefits of school and business, industry and post-secondary partnership development by stating "I know that SOI is trying to get a grip around partnerships… the attempt is being made and I think that is exactly what it needs to do." The DTSOI program and its ability to create relationships between school and industry was strongly encouraged by Participant 10, stating, "It is probably one of the bigger challenges that a lot of our school systems don't recognize. I would love to be able to share that with other groups that have influence on what is taught in the schools because I think that is one thing that is lacking (in traditional classrooms). I definitely recognized that when I was there at the school of innovation.

Overarching Interview Participant Perceptions of DTSOI Differences

As the researcher, I found these comments of value in fully describing participant positions as they pertain to the Don Tyson School of Innovation. Participant 1 states that "the DTSOI learning model is better prepared for the real world today. The world is a lot different than when I went through high school 40 years ago. I think it fits the customer."

This was an important aspect of initial conversations. To hear this comment from a member of the business community reinforced the importance. Participant 1 continues: "Schools have a customer, and it is either the parents or the kids themselves as your customers and this model seems to fit the customer very well. I think in the long run this is going to be something that probably you will see other schools in the district and other districts around will go to this model in an attempt to make it a more personalized learning experience, to make it more millennial-like if that is a word, because that is what the real world dictates today."

Participant 5 stated in her comments that from a post-secondary perspective, "I think this model does a better job in preparing students for the work place in that it develops some soft skills. The students that I see and I have heard from the school of innovation can self-advocate; they can be professional; they shake hands and are very persistent; they move forward and through the process." Participant 5 continues, "I think any workforce readiness skills transition to post-secondary education and college readiness as well." Participant 8 shares similar thoughts about college and career readiness benefits of real-world skill development stating: "It is about attitude and accountability. Having a different structure at the school of innovation brings more accountability to the students which applies to both a structure that you will see in college and a structure you are going to see in the real world."

Participant 4 describes observed college and career readiness traits of DTSOI students from her experiences from an adult career and technical standpoint:

> "NTI sees your students as being free thinkers. They have a more abstract way of thinking. The school, number one, you are open to ideas from your partners, which speaks boundaries. The students know the technology and they know how to utilize it. DTSOI is teaching them to be self-driven, goal oriented, and advanced technologically. I observed that those students were problem solvers. They had an abstract way of thinking. You could sit a robot in front of them and without any guided instruction they knew exactly, by working together, collaborating, how to solve the problem… these kids are top notch… and they know how to problem solve. In industry, that is what we need."

Participant 8 speaks to the noted culture differences of the DTSOI and the expectations posed for all students and staff. She makes the connection between expectations at the DTSOI and college experiences. "The expectations here for them to manage their time and to get their work turned in and to re-do their work to make it better and the accountability that they have that is separate from their parents. I can't imagine that your graduation rate from college is not going to be hugely different than what any other school is going to be because of the shock and awe of that first semester is not going to even phase these kids." Participant 5 sums up her experiences

with DTSOI students with the following: “The student that totally invests in the program and gets everything they can out is going to be a star.”

Participant 3 provides his closing thoughts toward college and career readiness through the DTSOI learning environment as follows: “A model like this (the Don Tyson School of Innovation) which is a customized project based learning program, really instills in those kids the skills that they need to go out and be successful in any job. You are giving them a two-for, if you will, here in that you have learning labs, where they are learning specific skills and getting credentials on top of their academic diplomas so that they are ready for college plus that concurrent credit, which is a real bonus.

Interview Participant Guiding Perceptions for the Future

Interview participants were asked to offer guiding thoughts for the Don Tyson School of Innovation moving forward in the closing remarks of their interview. Many alluded to the need for ongoing partnerships and communication with business, industry and post-secondary partners as would be expected. It was also noted that even with communication efforts, it would be an ongoing process to continually stay abreast of current needs within the fields of business and industry due to the speed of change. With these thoughts in mind, the following participant statements serve as considerations for the future.

Participant 1 states, “We did some studies twenty years ago in the late 90’s about what is the future of Northwest Arkansas and quite frankly we missed the mark pretty badly. The best people in the world could not tell us. So we do not have any way of knowing. I think in overall, education- the ability to learn and to learn how to learn is most important.” This is due to the current changing of workforce and post-secondary needs. “It just makes sense that this model is better than what we have traditionally tried to use. Cookie cutters don’t fit anymore.”

Additionally, schools everywhere must be able to build a plan to face the ever-changing needs of business, industry and post-secondary institutions. Multiple participants expressed thoughts of continued partnership development and communication are expressed as follows: Participant 10 and many other participants stated "I think we have to continue to stay connected and communicate. The more that our local industry leaders and businesses know about the things that are going on and maybe the things that we could do differently or more of, the better we are going to be able to achieve." Participant 3 stated that he thinks it is important to keep that line of communication open to the business community so that DTSOI can understand where the demand is going to be so that it can serve those populations of kids who want to come out and go to work.

From a post-secondary perspective, Participant 5 adds that she would like to see more students taking the core classes at the DTSOI that were more targeted in the dual and concurrent enrollment, and she feels that the DTSOI is on the road to getting there. Having been a part of its development, she feels that it just took time to get the system into place. Further Participant 5 adds that she would like to see a more focused effort on advising students through the concurrent process. Northwest Arkansas Community College has taken a step toward that in hiring a high school advisor and that person will focus on degrees and certificate completions.

Chapter Four Summary and Conclusion

This purpose of this study was to describe the college and career readiness of the Don Tyson School of Innovation students as perceived by members of Northwest Arkansas' business, industry and post-secondary institutions. Chapter 4 provides participant perceptual feedback through anonymous survey responses, semi-structured interviews as well as my observational field notes and participant reaction journaling. These methods of data collection provide a rich data inclusive of 46 survey responses, 10 semi-structured interviews, and observer field notes

pertaining to adult interaction with DTSOI students. These multiple data sets provide rich descriptions of participant interactions with students and their experience within the Don Tyson School of Innovation as well as their perceptions of the DTSOI's current progress in preparing students for Northwest Arkansas' college and career readiness needs.

Chapter Five: Conclusions, Discussion and Suggestions for Future Research

Overview

The purpose of this study was to describe the college and career readiness of the Don Tyson School of Innovation students as perceived by members of Northwest Arkansas' business, industry and post-secondary institutions. Throughout this study, responses were gathered through survey feedback as well as semi-structured interviews.

Participant responses included perceptions of academic abilities achieved through student participation in the personalized, advanced, accelerated, project-based learning environment in place at the DTSOI in Springdale, Arkansas. This study collected perceptual feedback with respect to the progress being made toward redesigning the secondary experience for students to meet the needs of both post-secondary education and Northwest Arkansas' workforce.

Survey participants were asked for feedback and perceptions of various aspects of program alignment, training needs, school- business and school-post-secondary partnership development. To provide a deeper perceptual understanding of Northwest Arkansas' business, industry and post-secondary members, ten semi-structured interviews provided rich examples of participant perception of the DTSOI and its abilities to meet the academic and workforce readiness needs of Northwest Arkansas. Semi-structured interviews included two participants from post-secondary institutions within the Northwest Arkansas region, four members of various Northwest Arkansas' workforce development entities, and four participants from Northwest Arkansas business and industrial sectors. Participants were asked to respond directly to the research questions pertaining to perceived academic and workforce readiness and were able to expand upon their personal perceptions of regional needs and the students' abilities to meet these needs.

This chapter provides discussion and summary of the perceptual feedback received from both survey and interview participants as they pertain to the Don Tyson School of Innovation and Northwest Arkansas' business, industry and post-secondary members' perceptions of its personalized learning model and its ability to prepare students for the academic and workplace needs of Northwest Arkansas. Additionally, field notes and reflections added insight of participants' experiences and interactions with DTSOI students. Due to the nature of the research questions posed, this chapter utilizes key participant quotes and narrative to offer appropriate support of the conclusions. Further, this chapter provides discussion of guiding insight and input from participants as to the next steps for the Don Tyson School of Innovation and the personalization of education for Northwest Arkansas moving forward.

In the closing commentary of this chapter, a summary of the work done to this point is provided, supporting insight and recommendations for the redesign of secondary schools in Northwest Arkansas and beyond. Additionally, personal insights gained throughout this study and guiding recommendations are provided for the continued study and development of the personalization of teaching and learning for student transitions into post-secondary education and the workplace.

Summary of Findings

Findings of the study indicate that members of Northwest Arkansas' business, industry and post-secondary communities are highly receptive to, and encouraged by their perceptions of college and career readiness at the Don Tyson School of Innovation. These findings reflect the responses of anonymous business and industry survey, my observational field notes of participant interactions with DTSOI students while touring the campus as well as semi-structured interview responses from members of Northwest Arkansas business, industry and post-secondary institutions.

Summary data of survey responses indicate that 72% of participants perceive the Don Tyson School of Innovation's personalized learning model to better prepare students for Northwest Arkansas' college and career needs as compared to their perceptions of the traditional classroom environment. An additional 9% of responses on the survey perceive the instructional practices of the Don Tyson School of Innovation to prepare students equally well as traditional counterparts for Northwest Arkansas' workforce needs. Survey findings also indicate that 19% of participants request additional time to gain further experiences and information regarding the program in place prior to offering their perceptions. It is notable that none of participants perceived the instructional program and offerings in place at the Don Tyson School of Innovation to be less effective than traditional classroom environments in meeting the college and career needs of Northwest Arkansas. It is further notable that 44 out of the 46 (96%) participants indicated that, based on their observation of the Don Tyson School of Innovation, students appeared to match their desired needs for future employment and/or enrollment.

Throughout the semi-structured interview process, 100% (10/10) of interview participants indicated that they perceived the personalized learning system and environment of the Don Tyson School of Innovation would better prepare students for academic and collegiate outcomes as compared to traditional methods of instruction. Additionally, 100% of interview participants indicated that they perceived the personalized curriculum, instruction and programmatic offerings of the Don Tyson School of Innovation to better prepare students for career and workplace success as compared to traditional methods of instruction.

Many contributing factors were noted by participants throughout the interview process, and it is notable that many of the attributes identified by participants could be applied to both perceived college and career success. Table 6 provides summary data of interview responses and

the frequency of participant identification of associated themes. As a means of providing rich data, selected participant commentary is included as it applies to the research questions posed.

Perceived Academic/ College Readiness

Survey responses indicate that 72% of participants perceive the Don Tyson School of Innovation's personalized learning environment to better prepare students for Northwest Arkansas' college and career needs, and an additional 9% perceive the DTSOI model to prepare students at least as well as traditional counterparts. Semi-structured interviews would indicate that the Northwest Arkansas business, industry and post-secondary participants unanimously (100%) perceive the DTSOI personalized learning program and environment to better serve student successes in their college and career pursuits. Chapters 4 and 5 of this study reinforce these data with participant perceptions of college and career readiness.

Participant 3 candidly speaks to the future with the understanding that DTSOI students have not yet graduated and transitioned into the workforce, stating: "I don't have a crystal ball for what is going to transpire, but I think these kids will all do well in college, especially in the technical trades because things like engineering and medicine…those types of professions or disciplines use this model more than traditional academics. I even hear anecdotally that kids are going to come out of these types of models…when they get to college the professors and instructors are very impressed with how far ahead these kids are in terms of their learning."

Participant 2 shares similar perceptions, asserting that the Don Tyson School of Innovation model:

> " It will better prepare students for college because they will have a better idea of what they may want to do…which if they are going on to college, it will definitely give them better guidance and help them set goals like reaching graduation and what type of degree they want to pursue…if that is not the path they want to choose…again I think they are going to have a much better understanding of the types of opportunities available to them and also have some workplace and industry recognized skills and credentials…and that would definitely give them an edge on the competition."

Perceived Career/ Workforce Readiness

Survey responses indicate that 72% of participants perceive the Don Tyson School of Innovation's personalized learning environment to better prepare students for Northwest Arkansas' college and career needs, and an additional 9% perceive the DTSOI model to prepare students at least as well as traditional counterparts. Semi-structured interviews indicate that the Northwest Arkansas business, industry and post-secondary participants unanimously (100%) perceive the DTSOI personalized learning program and environment to better serve student successes in their college and career pursuits.

It must be understood that these perceptions are based on current Don Tyson School of Innovation students and current programmatic offerings. These perceptions are being made prior to student graduation, and therefore it must be understood that business and industry needs are subject to change. Participant 3 addresses this thought regarding ongoing needs of business and industry in Northwest Arkansas in his remarks:

> "Employers are going to feed you…as technology changes and things like that…the work or base skills…the skills on the job that they need to specifically perform that task. What you are instilling in kids is much more important to employers. It is almost like stem cells or DNA for success. I am talking about communication, collaboration, critical thinking…we all talk about the C's…they are picking that up in the project based learning environment. Again, I am talking about how they are allowed to go in and fail and not be told the right answer. They have to figure out the right answer. That is different that the way you and I came up. That is how you learn…that is how you develop those other skills like critical thinking, communication and collaboration. You are working with people to get to an end. That, to me, is a winning model forever. I do not think that this is a fad…I think that is just something that we all need to have to be life-long learners."

Participant 2 continues to discuss the overlapping of college and career needs describing that students or employees must exhibit more than memorized academic skill, they must possess the proper executive skill sets as well.

> "I think any workforce readiness skills transition to post-secondary education and college readiness as well. It is about attitude and accountability…which having a different structure at the school of innovation brings more accountability to the students…selecting

> what they want to work on…they are responsible for keeping up with their classes and setting their benchmarks…working at their own pace but are still held accountable for everything being due in a certain amount of time, which applies to both a structure that you will see in college and a structure you are going to see in the real world."

Participant 7 speaks to the need for attainment of real-world skills and behaviors as well as creating a balance in students' academic careers, pursuing both college opportunities as well as learning employable skill sets.

> "There is a huge disconnect between the thought that all students should be college prepared versus reality where fifty percent of the students that graduate from high school will not attend college. Those students have to be prepared to enter the workforce at some level. SOI is offering many of the trades so that the student can be a welder, plumber, carpenter…they can study those in relation to their classwork. It is more than when I was in high school, the old shop class that was one hour a week. We learned how to make a cutting board or something in the class and it didn't prepare us very well…but now, refrigeration, diesel mechanics…those are very, very good trades that are short of good qualified candidates for employment. SOI is going to prepare those students who have that interest to be prepared to enter the workforce at an apprentice level so that they can perform at a high level when they are out of school. Plus, they have the benefit of being able to take some of those same classes that would get them credits toward an associate's degree. You take that high school student who has no desire to go to college and who wants to enter the workforce at a high performing level and you give him some instructional background on how to survive in the real world, if you will. It is just a powerful program."

Participant 9 provides commentary to close this section, speaking to the value of preparing students to learn both strong academic skills as well as career trades in addition to creativity, and critical thinking skills.

> I think without a doubt the experience at SOI helps enable children to move forward. Whether that would be beginning a career in a skilled trade or with one of the academy-type programs or going on to college or to further education. Certainly, they are going to be better prepared for the challenges that each of those opportunities may create. The exposure to creative thinking and innovation…caption some of their thoughts on what they can do…what they are capable of doing is probably one of the more significant components of the school."

Perceived Differences of the Don Tyson School of Innovation

Survey participant feedback indicates that 42 out of 46 (91%) participants found the instructional program, facilities, and outcomes to be notably different from their perceptions of

traditional education. Survey feedback included: diversity of subject matter, confident, hands-on, engaged, focused, motivated, respectful, communication, mature, self-guided and other descriptors of student behavior.

Self-guided reflects upon student ownership of the learning process. Participant 7 alludes to this behavior in his perceptions of noted DTSOI differences.

> "The traditional high school has classroom studies where you are in the classroom and you do the assigned work and it is pretty structured. As compared to SOI, where the student is a self-starter, self-learner, it is more in line with what the college experience would be. When you go off to college, you are on your own to do your own. In the school of innovation, with their new style of instruction, learn as you go…it is much better in prepping (students) for college. In the SOI model students have to work at their own pace. They are not pushed like they would be in a traditional…they are not pigeon-holed like they would be in a traditional school. This program prepares them to work on their own and to do the work on their own, on their schedule, so that they either perform or they don't perform; much like it would be in college. Real world application is what is needed. The SOI model is training kids in the trade of their choice and giving them academic background to go with it is just unbeatable."

Guiding Perceptual Feedback

Ongoing and Strengthened Communication Efforts

Throughout participant interviews, comments were sought regarding current offerings and how these programs could be refined going forward. This question further opened conversations about perceived expectations for DTSOI students in the future in both college and career readiness pursuits as well as the future growth and challenges for the Don Tyson School of Innovation. Discussion also included transition of DTSOI students into college and the concern that institutions of higher education must be continually informed as to the development of personalized learning to maintain student acceleration.

Participant 3 provides his thoughts regarding college transition: "I think it is going to be interesting when all of these kids start flooding into colleges because more schools are going toward this model. I don't know if the colleges have kept up to the extent that secondary has." Participant 3 continues on this thought from a workforce perspective, stating that "two year

schools and the schools that offer professional certification have remained nimble throughout this process because that is their bread and butter…serving the industry." These comments bring about the need for continued and increased communication between schools and school districts and the higher education and workforce communities to better understand changing needs and emerging practices.

This notion was repeated in most interviews conducted, indicating a larger issue in the flow of communication between schools and their respective audiences. Participant 3 directly states in his closing commentary, "I think it is important that you keep that line of communication open to the business community." Participant 10 supports this need adding "I think we have to continue to stay connected. The more that our local industry leaders and businesses know about the things that are going on and maybe the things that we could do differently or more of. I do think that we have to continue to tell the story. We have to continue to educate people about what is different with your school versus the traditional." This opens the conversation of the strength of community partnership development through the shared ability to inform a community and beyond of the efforts of a school or school district.

Blended, Personalized, Real-World Instructional Model

In its inception, the instructional model of the Don Tyson School of Innovation was created through the use of waivers from traditional seat time, traditional course sequence and structure as to represent a flexible, real-world application of learning through cross-curricular project-based learning. This process provides a notably different learning environment from that of traditional classrooms.

This difference is noted and guiding commentary provides participant perceptions of this environment. Participant 4 provides the following instructional comparison between that of the DTSOI and traditional learning environments:

> "Traditional schools are linear…they are uniform and teacher driven... They mainly use teacher-centered classroom practices, lectures, textbooks, worksheets, homework, question-answer evaluation exchanges. But at the school of innovation, what I have noticed is that learning is taking place all over the building and not like in a traditional classroom setting…there are wings in every part of your building that teachers and students utilize for learning. They don't just talk about how to solve problems, they do it…student centered learning environments, student led discussions, project based learning…these help students become problem solvers and thinkers…skills that industry needs today."

Moving Forward

Moving forward, the DTSOI model will continue to expand, opening the second phase of construction of the facility in the fall of 2020. With this, the Springdale school district will host ongoing community input sessions as it did in the planning of the initial campus. With the addition of the new learning space and accompanying labs, the instructional model will stay its course in terms of pursuing college and career readiness in a flexible, real-world environment with an added emphasis on executive skill development. Participant 9 speaks to the future with enthusiasm, stating "I think we are going to see our opportunities almost exceed our ability to pursue them. We need folks with that creativity and that imagination and how we can put that into action-items and make them relevant. A lot of what you are doing there just fits so many different things that we do."

Participant 3 supports the current direction of the DTSOI instructional program in its abilities to prepare students for college and career needs in Northwest Arkansas by stating,

> I think, again, you are on the right track here. Typically, successful entrepreneurial companies involve that (flexibility and desired skills). You are giving them those…planting those seeds with them. The other big thing is that they need to understand that this is not terminal. This is just a stopping point on a journey that will be, for their generation, life-long learning. They are going to have to stay up to speed with the latest because things move so fast. They are going to have to understand that there is going to be an expectation of them in the workplace…that they are always going to have to be learning what is new. You are giving them tools to be flexible. A flexible kid that is able to learn is going to be a successful kid regardless of where they end up.

Discussion, Considerations, and Future Research

This purpose of this study was to describe the college and career readiness of the Don Tyson School of Innovation students as perceived by members of Northwest Arkansas' business, industry and post-secondary institutions. Through anonymous surveys and semi-structured interviews and observer field notes, data were collected to describe participant perceptions of Don Tyson School of Innovation students' college and career readiness. Additionally, participant feedback reflects perceptions of DTSOI program offerings, personalized instructional delivery models in place, soft or executive skill development and the matching of these programs and skills to regional college and career needs.

Due to the uniqueness of the instructional model and delivery system in place at the Don Tyson School of Innovation, several considerations must be discussed as to how they relate to the perceptions presented. Further, due to the unique nature of the DTSOI learning model, and in light of participant perceptual feedback, notable discussion regarding further personalization efforts can be introduced.

Discussion

As participant perceptions were reviewed, emerging themes outside of the research questions were noted. These themes provide foundation for ongoing efforts of partnership development and those partnerships' impact upon course relevancy. Further, elements of the DTSOI instructional model will provide means for further study. Certainly, business, industry and post-secondary participants offered their perceptions of students' display of college and career preparation. Additionally, participant discussion led to noted awareness of blended classes and real world application of learning, collaborative group work, difference in school culture, creativity on display, and the presence of soft or executive skills, student engagement, confidence and enthusiasm. Further, participants spoke of the need for ongoing

partnership and communication between schools and the business, industry and post-secondary communities, and how those communications and partnerships could be beneficial to the development of career pathways and college transitions. In addition to these conversations, participants identified levels of student ownership of the learning process and student choices and a voice within their learning environment.

These identifications by participants can be contributed to the continual evolution efforts of public education as it relates to college and career preparation initiatives. Although this study's purpose was to describe the college and career readiness of the Don Tyson School of Innovation students as perceived by members of Northwest Arkansas' business, industry and post-secondary institutions, further discussion by members of Northwest Arkansas' participants indicates the importance of including and communicating with external partners in the development and ongoing evaluation of college and career preparation programs.

Additional perceptions for discussion include the noted blending of classes, the development of personal plans of study for students and how these elements of the Don Tyson School of Innovation contribute to perceived differences in school culture. The personalized learning environment of the DTSOI includes individual student planning sessions upon enrollment. In these sessions, students and family meet with DTSOI administration and college and career planning advisors to identify specific learning pathways and outcomes as desired by students. Throughout this course selection process, students and families chose courses and timelines for individualized learning plans. These courses include DTSOI core classes, which are blended, accelerated programs. These programs have been approved by the Arkansas department of education and are the result of waivers releasing the DTSOI from traditional constraints of seat time, traditional grade band and calendar. Through these courses, the DTSOI offers blended courses that utilize hands-on learning, technology integration and the

development of executive skills. These personalized student choices represent many of the perceived course differences noted by participants as real world, creative and engaging. If these traits are perceived by Northwest Arkansas' business, industry and post-secondary institutions as positive elements in demonstrating college and career readiness, perhaps other employers in other locations would concur. Further study and discussion could address these relationships as they pertain to the future of personalized learning and the development of student voice and choice in the learning process.

Age Considerations and Post-Graduation Monitoring

It must be noted that these perceptions have been built based upon participant interaction with students and experiences within the Don Tyson School of Innovation campus. DTSOI has not yet had a graduating class of students. The inaugural graduation will occur in the spring of 2019. Consideration must be given to this when describing perceptions of expected student performance in college and career futures. This consideration creates an opportunity for further research that schools and school districts could use as means of validating college and career preparation programs, and that is the development of a student management system, which continues to monitor students' post-secondary placement and employment post-graduation. This is an area of measurement that must be developed moving forward, as it will represent student's real-world success rate and assist in the continued refinement of program offerings.

Given the new nature of the Don Tyson School of Innovation, it would be in an advantageous position to begin this process prior to its first graduating class, thus offering an ongoing tool to monitor the validity of its college and career preparation programming. Based on the success of its students in transitioning to college enrollment or acceptance into the workforce upon graduation, DTSOI could then gain ongoing feedback as to the changing needs of the workforce as well as college success.

Partnership Development

These efforts coincide with remarks by Northwest Arkansas business, industry and post-secondary leaders regarding strong partnership development and ongoing communication efforts between schools and the community. These efforts will help schools stay abreast of changes within the business, industry and post-secondary institutions as well as provide communication of achievement, change and need between the public school system and its partners.

Partnership development cannot be limited to regional business, industry and post-secondary institutions. The perceptions of participants reflect their support of the flexibility permitted through waivers from the Arkansas Department of Education. If schools and school districts desire to deliver content and instruction deemed "real-world relevant" by their communities, flexibility from the constraints of traditional curriculum, instruction and classroom environments is necessary.

Suggestions for Future Research

Blending of Classes into Real-World, Competency-Based Learning

Schools and school leaders will continue to struggle to find sufficient time for learning that is not dictated by a set curriculum or timeline. This struggle is accompanied by traditional calendar requirements, grading practices, silos of traditional course offerings and ultimately, traditional outcomes. In its inception, the Don Tyson School of Innovation and its personalized learning programs, were designed to step away from the constraints of traditional seat time requirements and the one-size-fits-all learning approaches. If real-world outcomes are the desired product, school programs must reflect this charge. Schools must ensure that student learning becomes the constant and allow time to become the personalized variable. This can become a reality if school leaders are willing to pursue waivers from traditional seat time and grade based on age to think about curriculum and learning through a real-world, personalized

lens. By creating a real-world, competency-driven curriculum, skills and knowledge across traditional subjects can be integrated into learning experiences that reduce redundancy and allow time for increased student ownership and enthusiasm.

Further research will provide an ongoing description of the competency-based curriculum development process and the role that students' voice and choice play in this process. When given the opportunity to demonstrate mastery, student voice has been a critical element in the development of the Don Tyson School of Innovation instructional model.

Personalized Learning through Student Voice, Choice and Ownership

As educators, we want our students to take ownership of the learning process, to be motivated, to take learning risks, to persevere when success does not come immediately, and commit to learning as a process. We want students to demand a culture for learning, innovation, and growth. Findings of this study include stakeholder feedback stating the importance of learning not only academic and workplace skills, but also how to learn. The need for critical thinking, problem-solving and continued learning overlaps both college and career. At DTSOI, these conditions appear to be present and intentional. This is attributed to ongoing efforts to allow the development of student voice, choice and ownership of the learning process.

The development of student-ownership of the learning process lays the foundation for personalized learning pathways in the case of the Don Tyson School of Innovation. These pathways have led to the development of competency-based instruction, employment and collegiate programs of study as well as the observable difference in school culture as denoted by participants in both surveys and semi-structured interviews.

Ongoing College and Career Planning with Early- Affordable College Opportunities

The goal at DTSOI is to provide students with the foundation needed to take the next steps after graduation, whether that be into college or into the workforce. This includes not only

creating the opportunity for students to participate in these respective areas at an early age, but also making these opportunities affordable for students, who may not have the opportunity to participate in the college or career experience otherwise. At DTSOI, concurrent and career opportunities for students are available as early as the 9th grade in lieu of traditional high school curriculum. Academic standards were reviewed and concurrent agreements were made, but further inspection revealed that even with the added opportunity, students were financially unable to take advantage initially.

Partnerships with regional community colleges and career and technical institutes have since made this opportunity a reality, but further study is needed to describe students' ability to participate and to create opportunities for all students to achieve their college and career goals.

Conclusion

The Don Tyson School of Innovation represents an opportunity for students and families seeking a new model of learning, and a new potential outcome for students as they pursue college and career goals. Further, it represents the first model of public education in Arkansas utilizing both School of Innovation status and the flexibilities associated, along with district conversion charter school status and the waivers associated to provide a personalized learning environment that is both college and career focused. The system in place was created in partnership between school leaders and business, industry and post-secondary partners whom all have a stake in the success of this generation and those to follow. Currently, in its fourth year of operation, DTSOI has the support of regional business, industry and post-secondary stakeholders as a perceived quality opportunity for students pursuing college and career readiness.

The differences observed by participants indicate their support of the personalization of teaching and learning as it applies to college and career readiness and the needs of Northwest Arkansas. The instructional model in place reflects a change in public education and a change in

expected outcomes of student success. Participants in this study indicate strong support of blended learning, hands-on project-based learning, early collegiate experiences as well as early access to the career pathways and adult credentials supported by the Don Tyson School of Innovation.

Participant feedback indicates a hopeful, supporting community of business, industry and post-secondary partners. These partnerships will continue to be a valuable asset to student achievement and real-world skill development. A driving factor in this effort is student and teacher motivation to pursue higher expectations and belief in the potential to do so. As educators, we continually search for ways to motivate our students and communities, to strive for more, to stretch their potential. We know that motivation and student ownership is the beginning point of student success. Our work now shifts to personalizing our practice, creating opportunity for real-world experience and forging community partnerships that will further open doors for ALL students so that they may be impactful members of our community; their success as well as our community's success depends on this effort.

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Appendices

Appendix A

University of Arkansas IRB Letter

UNIVERSITY OF ARKANSAS

Office of Research Compliance
Institutional Review Board

April 19, 2017

MEMORANDUM

TO:	Joseph Rollins Carleton Holt
FROM:	Ro Windwalker IRB Coordinator
RE:	New Protocol Approval
IRB Protocol #:	17-04-627
Protocol Title:	*College and Career Readiness through Personalized Learning: Business and Industry Perception of the Don Tyson School of Innovation*
Review Type:	☒ EXEMPT ☐ EXPEDITED ☐ FULL IRB
Approved Project Period:	Start Date: 04/19/2017 Expiration Date: 04/18/2018

Your protocol has been approved by the IRB. Protocols are approved for a maximum period of one year. If you wish to continue the project past the approved project period (see above), you must submit a request, using the form *Continuing Review for IRB Approved Projects*, prior to the expiration date. This form is available from the IRB Coordinator or on the Research Compliance website (https://vpred.uark.edu/units/rscp/index.php). As a courtesy, you will be sent a reminder two months in advance of that date. However, failure to receive a reminder does not negate your obligation to make the request in sufficient time for review and approval. Federal regulations prohibit retroactive approval of continuation. Failure to receive approval to continue the project prior to the expiration date will result in Termination of the protocol approval. The IRB Coordinator can give you guidance on submission times.

This protocol has been approved for 60 participants. If you wish to make *any* modifications in the approved protocol, including enrolling more than this number, you must seek approval *prior to* implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

If you have questions or need any assistance from the IRB, please contact me at 109 MLKG Building, 5-2208, or irb@uark.edu.

109 MLKG • 1 University of Arkansas • Fayetteville, AR 72701-1201 • (479) 575-2208 • Fax (479) 575-6527 • Email irb@uark.edu

Appendix B

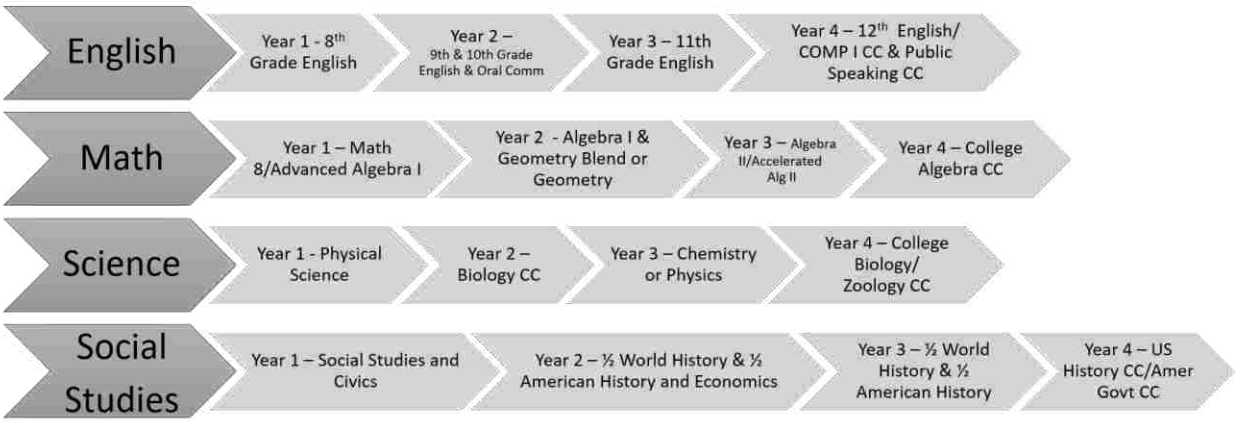
Don Tyson School of Innovation Career and Technical Education Pathways

Appendix C

Don Tyson School of Innovation Pathways of Study

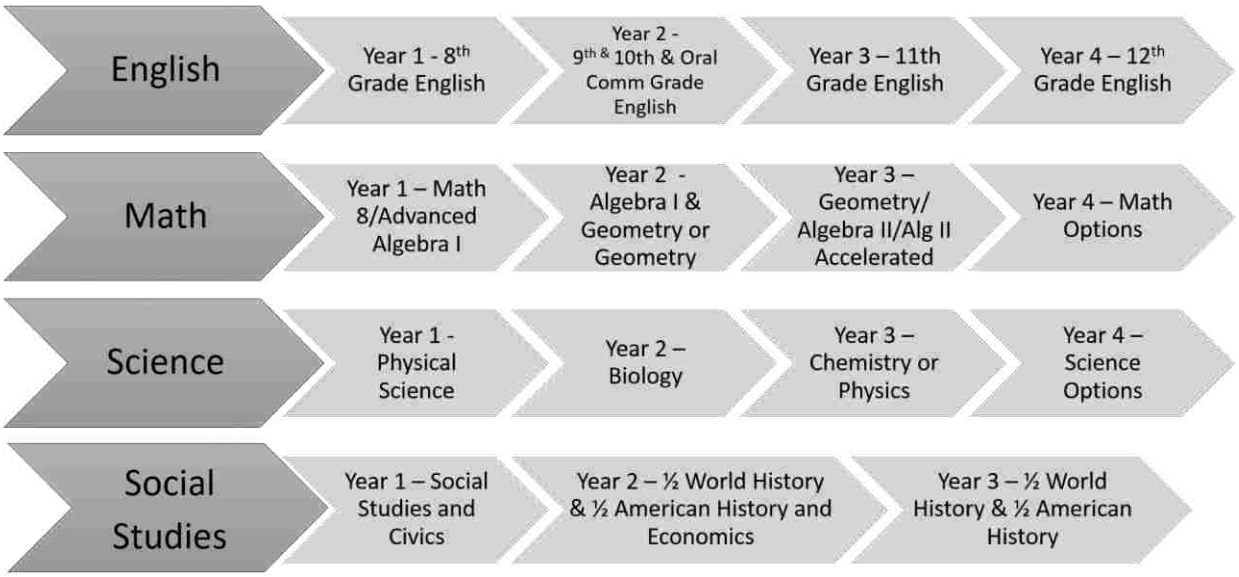
Northwest Arkansas Community College

General Studies, Certificate of Proficiency (16 hours)



Legend: CC = Concurrent College Credit - / = or (either this course or another) - & = (this course and another course)

Accelerated High School with CTE, NTI or Internship Experience



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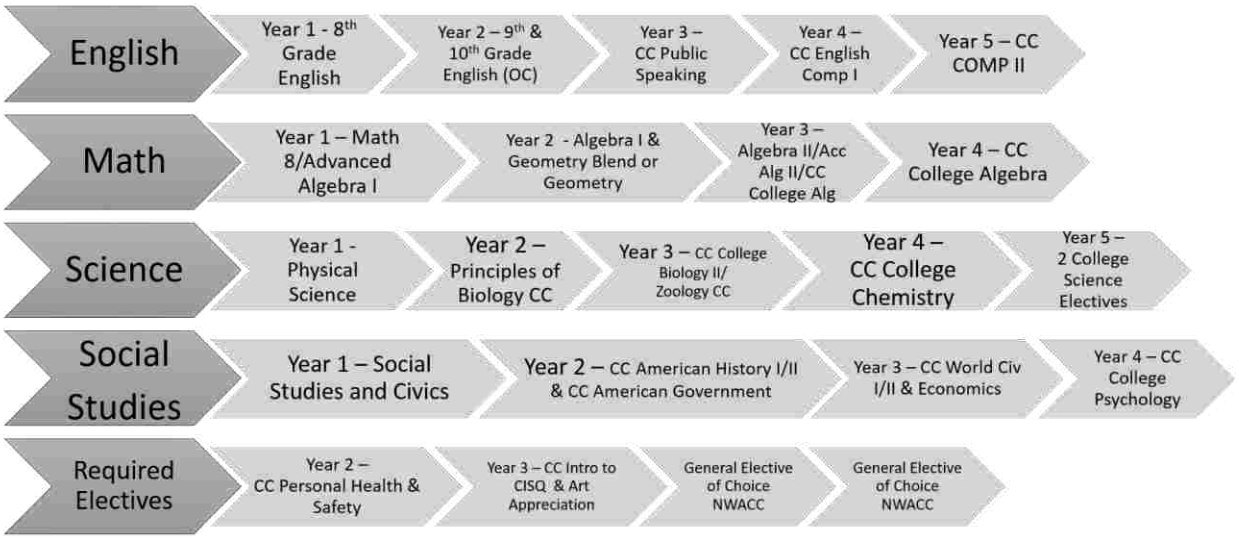
Northwest Arkansas Community College

Associates of Science Degree (60 hours)



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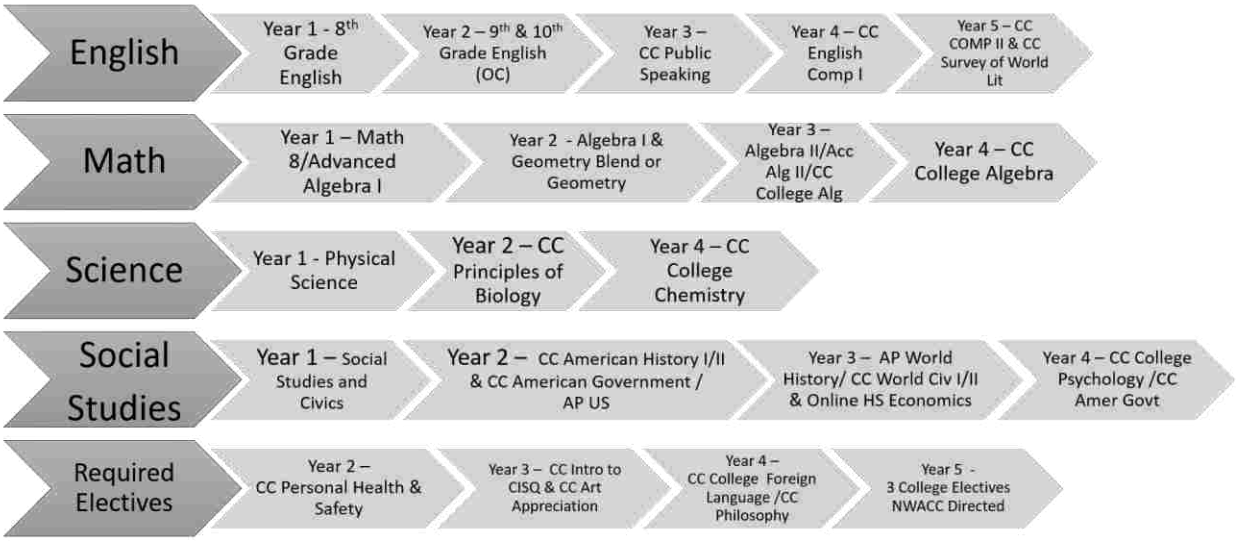
Northwest Arkansas Community College

Associates of Arts Degree (60 hours)



Legend: CC = Concurrent College Credit - / = or (either this course or another) - & = (this course and another course)

Appendix D.

External Partner Needs and Experience Survey
Don Tyson School of Innovation: Career Readiness

The survey is intended to gather business/industry/organization feedback in order to prepare students to be career ready.
* Required

What are the workplace readiness or executive skills that are needed in your business/industry/organization? *
Your answer

What are the highly desired occupations/jobs that are needed now and within the next 10 years at your business/industry/organization? *
Your answer

What type(s) and level of training is needed and/or desired at your business/industry/organization? *

- Simulator
- On-the-job
- Coaching/Mentoring
- Role-playing
- Technology Based
- Tutorials
- Seminars
- Group Discussions
- Lectures
- Management Games
- Video
- Planned Reading
- Professional Credentials
- 2-Year Associate's Degree
- Bachelor's Degree
- Advanced Degree
- Other:

Based on your experiences, observation and interaction with students, how does Don Tyson School of Innovation's educational model compare to the traditional school model in preparing students for college and career scenarios? *

- Better prepares students for jobs/career/education needs of our community
- Equivalent to traditional model in meeting the job/career/education needs of our community
- Does not meet the desired job/career/education needs of our community
- I have not observed or have enough knowledge to give an opinion

What type of work experience/opportunities could you provide for Don Tyson School of Innovation students, time permitting? *

- Seminar/speaking engagement at the school about careers at our business/industry/organization
- Tours at our business/industry/organization
- Partnership with our school in preparing students for career readiness
- Opportunities for students to job shadow with specific personnel
- Opportunities for students to work study for a specific period of time with departments/personnel
- Student internship opportunities with certain departments/personnel
- Personnel within business/industry/organization to volunteer at school as mentors
- None of the above
- Other:

Which of the following would be desired at your business/industry/organization? *

- Associate's degree
- Bachelor's degree
- Doctorate's degree
- Certificate
- License
- None
- Other:

If degrees, certificates and licenses are preferred, which would be the most desirable for initial employment?

Your answer

How important and/or how valuable is previous work experience, work-study, job shadowing experience or internships to the initial employment process? *

Not very important

1
2
3
4
5

Very important

SUBMIT

Never submit passwords through Google Forms.

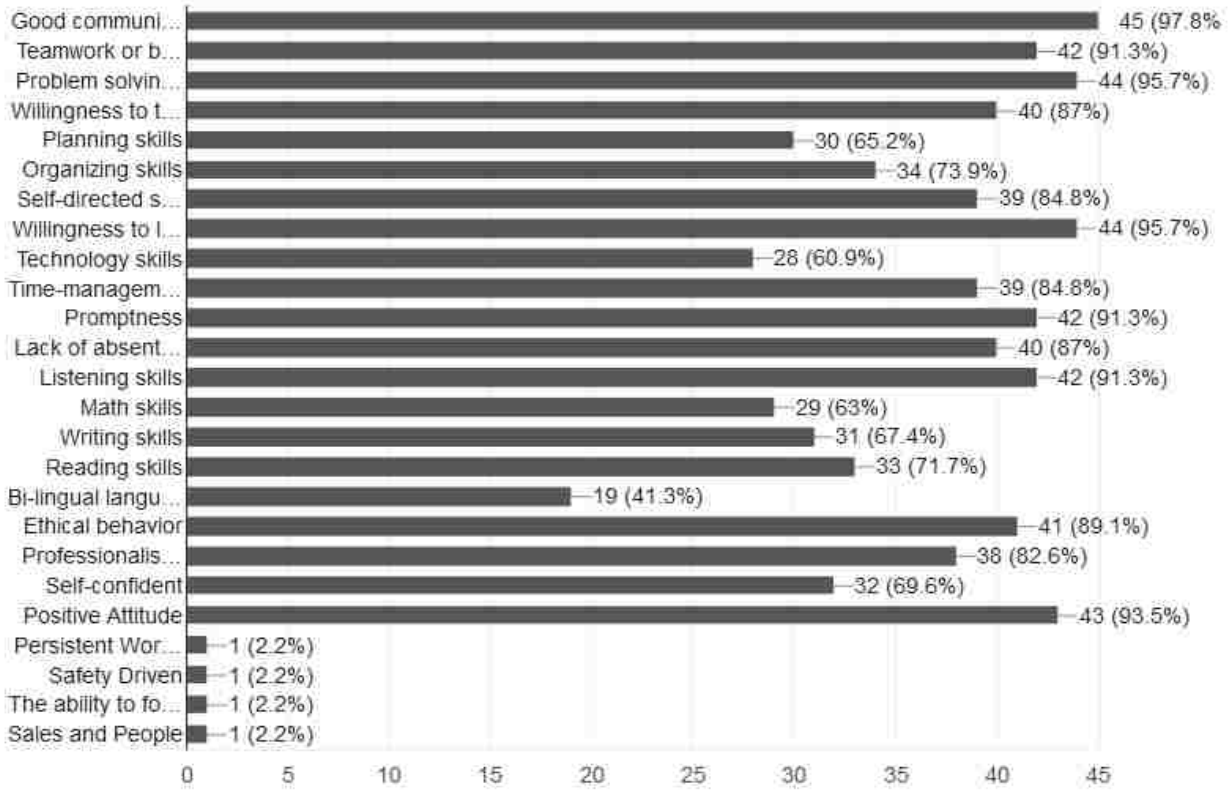
Appendix E.

Survey Response Data

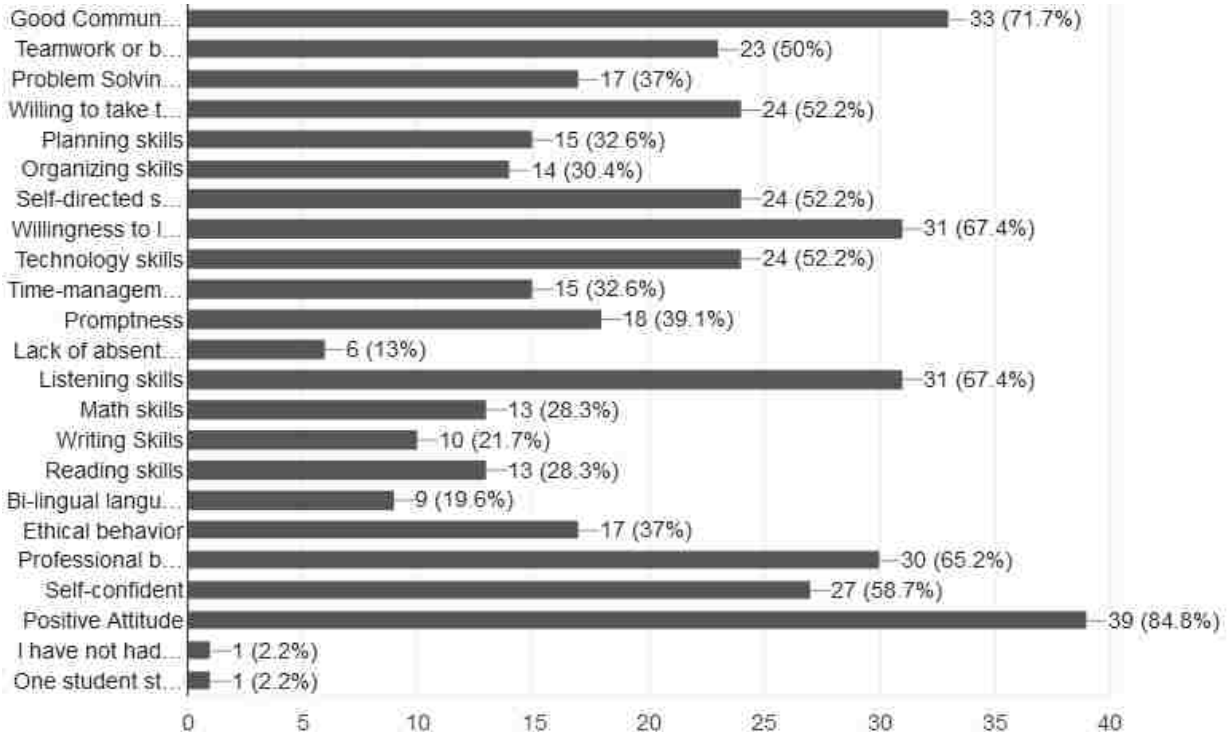
Don Tyson School of Innovation: Career Readiness

The survey is intended to gather business/industry/organization/institution feedback in order to prepare students to be college/technical school and career ready.

1. What are the workplace readiness or executive skills that are needed in YOUR business/industry/organization/institution?



2. Which of the following workplace readiness skills were observed among the majority of our students at Don Tyson School of Innovation?



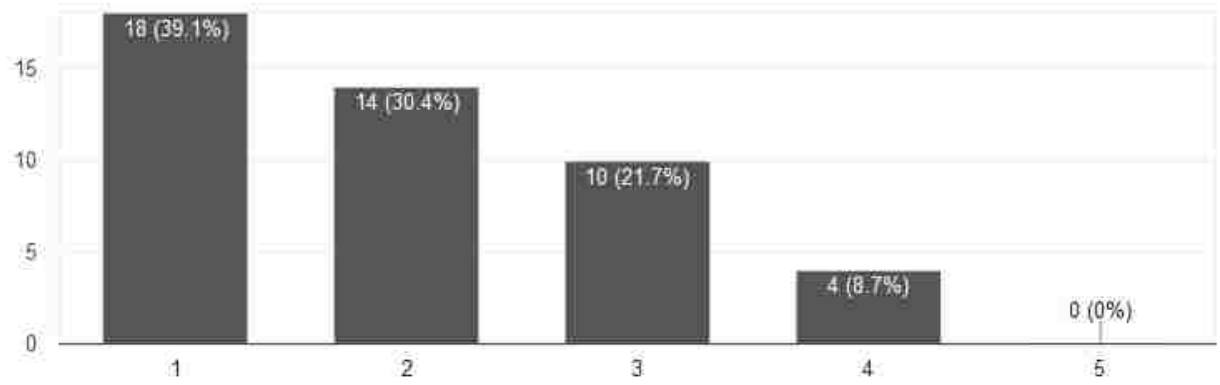
3. What type(s) of personalized learning was offered and/or observed when visiting Don Tyson School of Innovation? (Each bullet point represents an individual response.)

- Career Day Booth only
- We were there to give a very practical session on tools that students can use to become young entrepreneurs.
- Students professionalism
- I did not have the chance to observe any classes
- Job Fair / Work Force Wed
- Mostly robotics and the greenhouse trailer
- speaking engagement on careers
- Allowing them to ask questions
- some initiative at the career fair. The students that used their cards and did not move in a pack did demonstrate the ability to initiate a conversation
- Unsure of definition of "personalized learning"
- None, we attended your career day only
- I attended a career fair at your school. Students were able to go from booth to booth and ask personlaized questions about each career and learned about different careers through these questions and answers
- Students were offered the opportunity to learn more about different colleges and options with that.
- N/A

Question 3 cont'd

- The class rooms were geared toward small groups .
- very impressed with the group learning and with the variety of real life job skills available to the students.
- Preparation
- Career Fair & Presentations from specific students
- Was there for a rotary meeting
- observed technology skills, robotics, agriculture
- self directed
- The lettuce farm project
- None
- Relationship with teachers
- Project based, agriculture, robotics, college classes
- I didn't get that deep into the weeds of the organization
- I wasn't able to stay for the tour.
- Question and Answer session with presentation
- 3-D Printing Project, Agriculture, Labs
- We were told out about many types. Didn't get to observe many. Saw the 3D printers in action.
- Praise was given for teachers personal instruction and interaction with students.
- Students working on projects that interested them and had real-world application.
- Project learning, students speaking to that point
- Shop, hydroponics, robotics
- Real World Wednesday
- I observed a lot of positive personal interaction between the students, teachers and administration during the tour.
- I liked the fact the students can work at thier own pace.
- Qualities desired in hiring the best candidates.
- Open to new ideas
- Visual, verbal, auditory, and interactive
- At our table, we played a game of "which decisions will you make" where the students had 15 smarties to get them through the month. They had to be strategic on how they spent thier moeny, and had to think about thier families, not just themselves.
- None were observed or offered
- One to One
- I was overly impressed with the students that set up the event and were checking on the community organizations present. They demonstrated wonderful leadership skills. Organization, professional, confident and positive attitudes.
- Students approached us to give a tour of the freight farm and no teacher coached them or told them what they had to say/checked to make sure they said the right things which I appreciated and was impressed by.
- Hydroponics

4. How different is the personalized learning from traditional models you have observed? (with 1 being very different and 5 being very similar)



5. What were some particular observations/perceptions about our students that stood out to you when visiting our school or attending an event at our school? (Each bullet point represents an individual response.)

- Very smart group of kids
- It was a very, very diverse group. The students all appeared to be engaged and not distracted by the open setting.
- The confidence and professionalism students had to actually learn more about careers.
- They dressed better than I have seen at other schools and overall they seemed very polite.
- Several asked very good questions, good number of students participated
- They enjoy hands-on learning
- they were well-behaved
- They were very interested in learning, not jut getting through the day
- majority were dressed appropriately; some ability to have and start a conversation
- All very focused and synergistic.
- They all seemed to be very intelligent and self-motivated
- I was impressed by the creative questions from the students. Was also impressed by the confidence showed by the students and they were also very polite and respectful.
- The students asked great and thorough questions at the college fair. Some of them were very mature and professional.
- I was glad to have been apart of the college and career day but I noticed many students I spoke to seemed to be confused on what questions to ask. I believe many of them walked from one college table to the next more out of expectation than real interest. Having said that, I believe it is important to continue to host events like this because it exposes students to the options they have available to them in their community and across the state.
- They were very polite, and eager to learn.

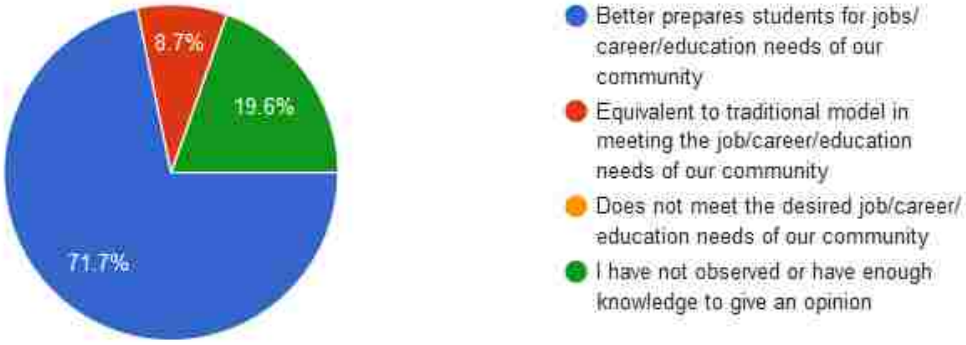
Question 5 cont'd

- Visited the student small groups, classrooms, and labs. What stood out to me was the self directed groups, their participation in their learning, and with the students I met, their apparent ease around visitors and staff.
- Attentive listening skills, willing to ask questions, engaged
- Confident, inquisitive, eager to learn
- Unbelievable communication skills
- They were very proud of their unique school; very well-spoken; confident
- free to "do your own thing"
- They were very smart and acted more knowledgeable than some adults
- Interest and enthusiasm
- They wanted to tell the SOI story, and they were able to do so very well
- Seemed engaged in class
- I believe that the single most attribute demonstrated by the students I observed was self-confidence.
- Students appeared very confident yet not arrogant
- The students seemed focused on my presentation and several had good questions regarding the material presented.
- Very confident and hard working. Independent.
- They were very well spoken. Weren't afraid of public speaking. I think it is on the right track for setting kids up for success.
- They seemed pleased with the school and very self-confident.
- Students seemed excited about what they were learning and eager to share it with us.
- Teamwork, self motivated, confidence
- They were all young professionals with a positive attitude
- Students had excellent communication skills.
- Everything from the environment the students were learning in to the projects they were working on, robotics and organic farming as an example.
- They all seemed eager to become leaders.
- Very hard to engage them to answer questions.
- Friendly faces
- n/a
- The desire to learn. Their manners were far better and they were all personable and engaged.
- None
- They are very out going and self-guided.
- Open concept, polite students, engaged teachers, clean, students were calm (for the most part) and seemed interested in learning.
- The students really took initiative and were willing to communicate with adults and tell them what they knew which was great.

Question 5 cont’d

- All students at our table were polite, attentive, interested and asked specific questions to our mission. Many were interested in joining us in our goal to take compassion throughout the NWA community.

6. Based on your experience, observation(s), and interaction with students, how does Don Tyson School of Innovation's educational model compare to the traditional school model in preparing students for regional job markets?



7. What are the highly desired occupations/jobs that are needed now and within the next 10 years at your business/industry/organization? (Each bullet point represents an individual response.)

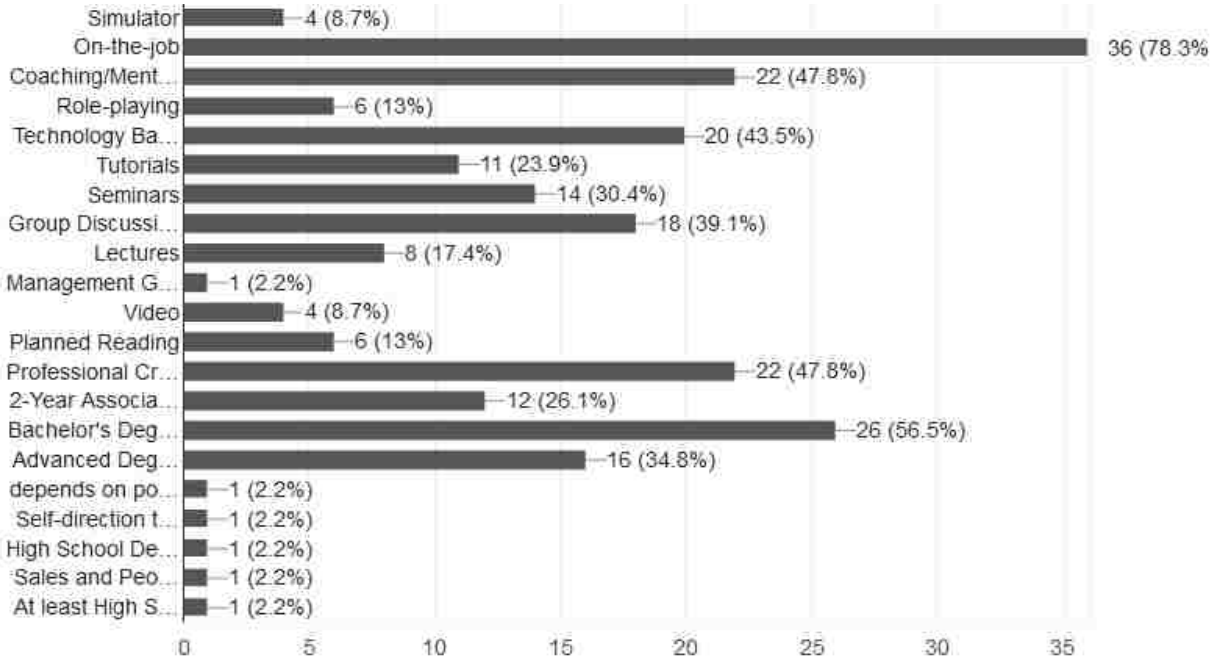
- Superintendents, Project Managers, BIM, Safety Managers
- We need people with an entrepreneurial mindset that will take the initiative.
- Construction Trades
- Cyber security - is one of the fastest growing fields and currently there is more need than skilled applicants. Data Scientist - this is another growing field as more companies realize the value of the information they are gathering daily. Programmers- A lot of businesses just want to know that you can code. They will send you to training for the language they want you to learn.
- Mechanical/tech skills, entry production
- Middle skills jobs, such as manufacturing/industrial maintenance/refrigeration
- STEM expertise
- Technological knowledge (computers, etc..)
- Management Trainees (4 yr degree required); Service Sales Route Positions; Production (manual) Labor - Loading/Unloading trucks; Hanging/Folding Garments
- Mapping/Modeling, GIS, water quality monitoring, foresters, water treatment professionals, watershed specialist
- Skilled laborers
- Civil Engineers, CAD technicians, survey technicians, construction related jobs

Question 7 cont'd

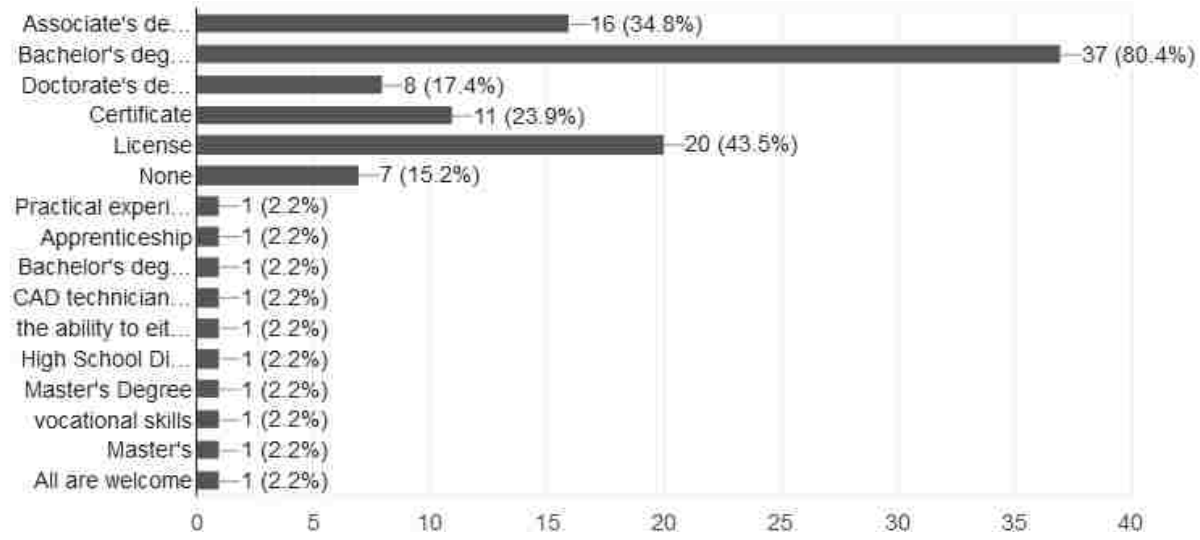
- Since it is a college, we have students attending to get their degrees but are not necessarily looking for people to major in specific things to get specific jobs at the institution
- Health Professions (Nursing), Building Construction, Culinary Arts (Baking/Cooking), Logistics and Supply Chain Management, Business
- Able to adapt.
- Technical, maintenance, leadership, 'followship' along with the ability to manage quickly changing situations and schedules.
- Diesel Mechanics, Equipment Operators, Truck Drivers
- Technology related with real world knowledge - working with public of all ages
- Sales people. Self driven, excellent communication and ethical people.
- CPAs and investment advisors
- vocation skills
- Engineers
- Computer skills/listening skills
- Technology and middle management
- Instructors, IT
- Trade jobs. Mechanics, Electricians,
- Anything dealing with the use of technology
- Solid Waste operators, civil engineers, environmental educators, recycling coordinators
- Management, Customer Service, Recreation Specialist, Development Staff, Accounting
- Sales associates, jewelers, goldsmiths and stone setters, designers.
- Recreation coordinators and instructors, maintenance, and leaders.
- Good written and oral communication skills; ability to learn new things quickly; willingness to take initiative to solve problems in new ways.
- Technician and sales
- everything is technology driven
- Closing Agent, Closing Processor, Title Agent
- Trade craft skills such as welding, plumbing etc..
- Transportation solutions
- Skilled Trades, Builders, IT, Sales Professionals
- Good attitudes and willingness to do what needs to be done regardless of title.
- psychiatrists and psychotherapists
- For us, it's fundraising, finance, and community impact related work.
- Technology based/Grant writing
- Coordinators, Development officers, Computer Instructors
- Not many students will look at non profit organizations/social services for career paths, however I retired from on non profit organization with a pension and wonderful retirement benefits to then work for another exceptional charity organization. Exposing

- students the world of not for profit organizations would help us develop a future workforce.
- Associates or bachelors ideally
- Team planning and organization. Ideas to help end hunger and poverty. Critical thinking and visionary, outside the box planning. Would like the students to design a program that they could teach in schools using the compassion message and mission to stop bullying.

8. What type(s) of training is needed and/or desired at your business/industry/organization?



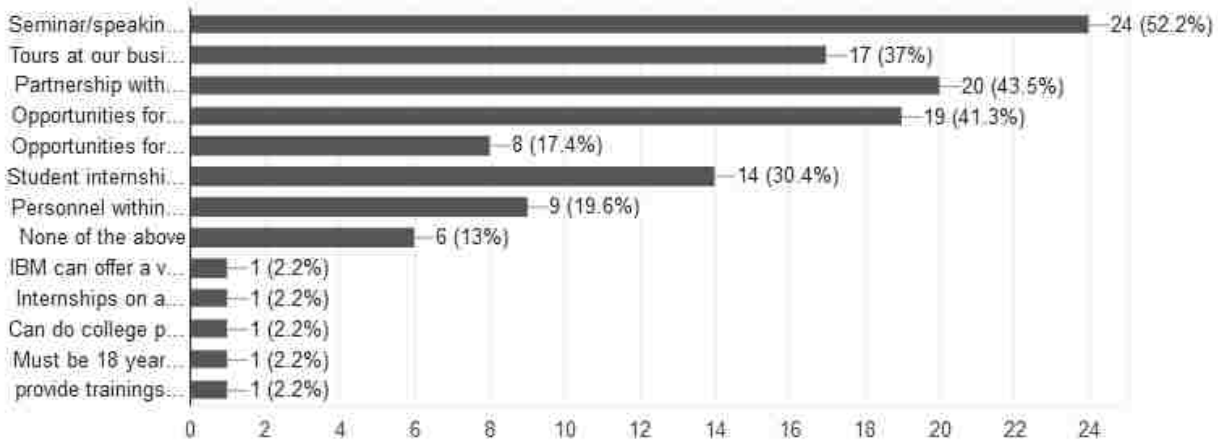
9. Which of the following would be desired at your business/industry/organization?



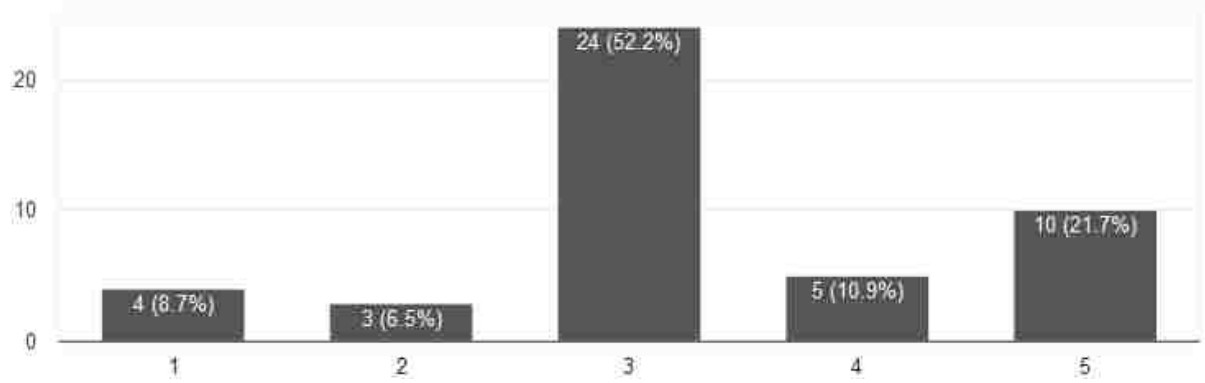
10. If degrees, certificates, and licenses are preferred, which would be desirable for employment? (Each bullet point represents an individual response.)

- Bachelor's (2)
- Construction Management
- I'm looking for people that have built or are building real businesses that have "Swiss Army Knife" skills and can do many things. We currently have on staff engineers, operations experts, finance experts, marketing communications experts and most have advanced degrees but more importantly they get things done that matter.
- Journeyman Plumber/Electrician
- Honestly, I have met a lot of people with non technical degrees. IBM hires the person more than the degree at times. They will train you if you are willing to learn. Especially for our sales roles, the importance is that you have a degree and can communicate. However, it is preferred to have a technical degree which can be in Engineering, Computer Science or Information technology/systems. IBM also hires from art and design backgrounds to help design our User Interfaces.
- depends on the dept/position
- For maintenance, a 2-year degree and/or certificates of training (NCCER is a good example)
- management requires college degree
- Juris doctor
- Science-related degree
- None

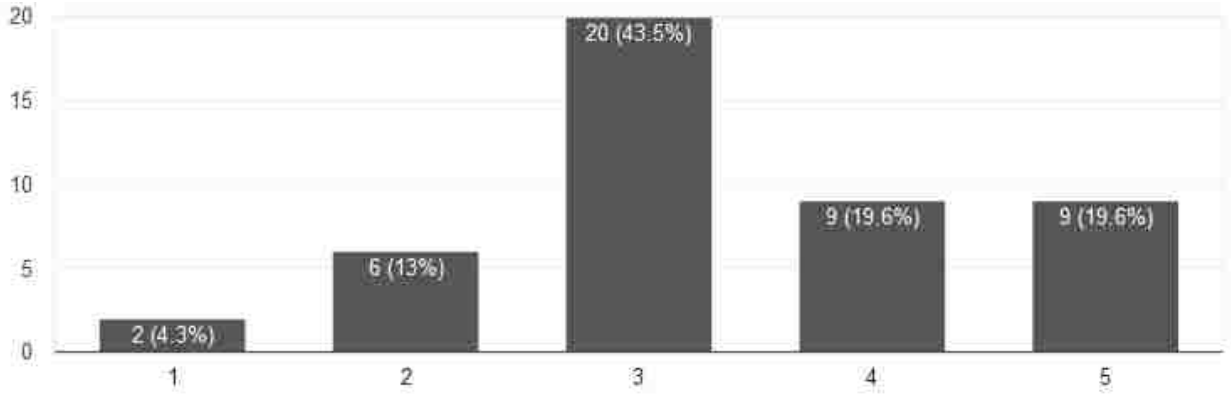
11. What type of work experience/opportunities could you provide for Don Tyson School of Innovation students, time permitting?



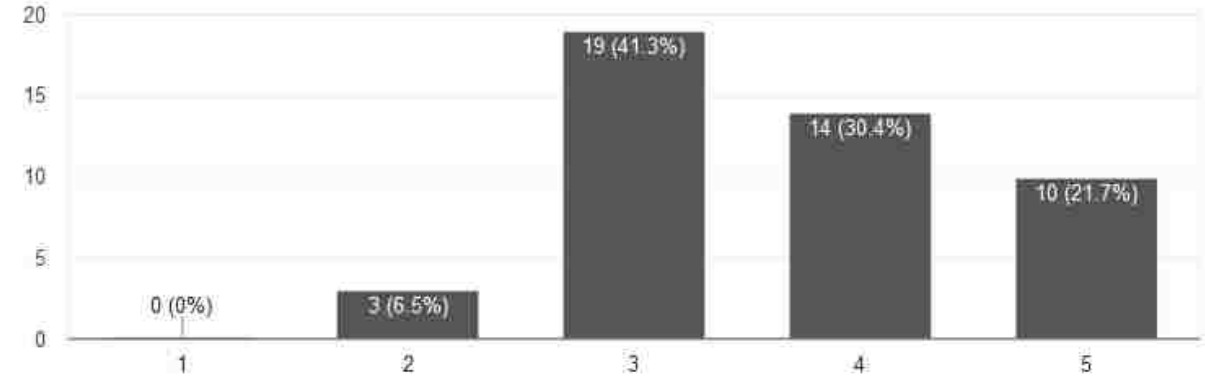
12. How important is previous work experience to the initial employment process? (with 1 being not very important and 5 being very important)



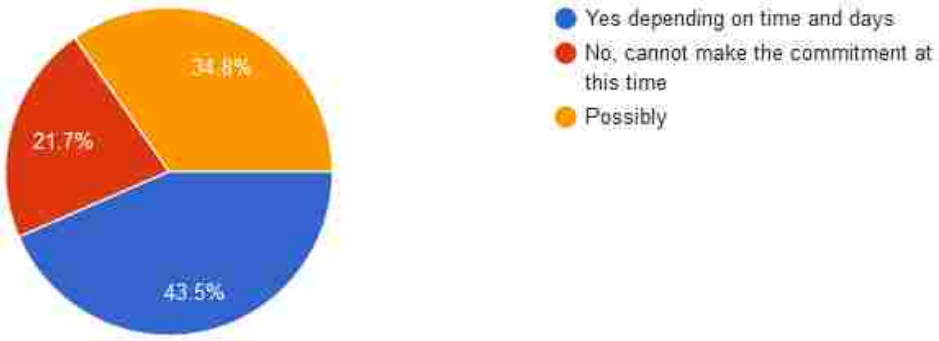
13. How important is work-study, job shadowing or internship experience to the initial employment process? (with 1 being not very important and 5 being very important)



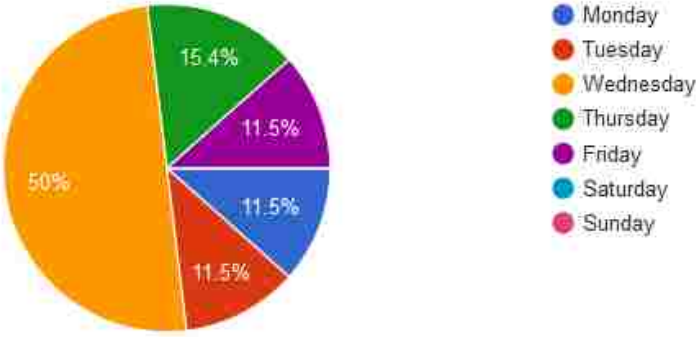
14. Based on your observation of the Don Tyson School of Innovation, how well do you believe the school matches the needs of your business/industry/organization/institution for meeting the needs of preparedness for future employment and/or learning? (with 1 being not very important and 5 being very important)



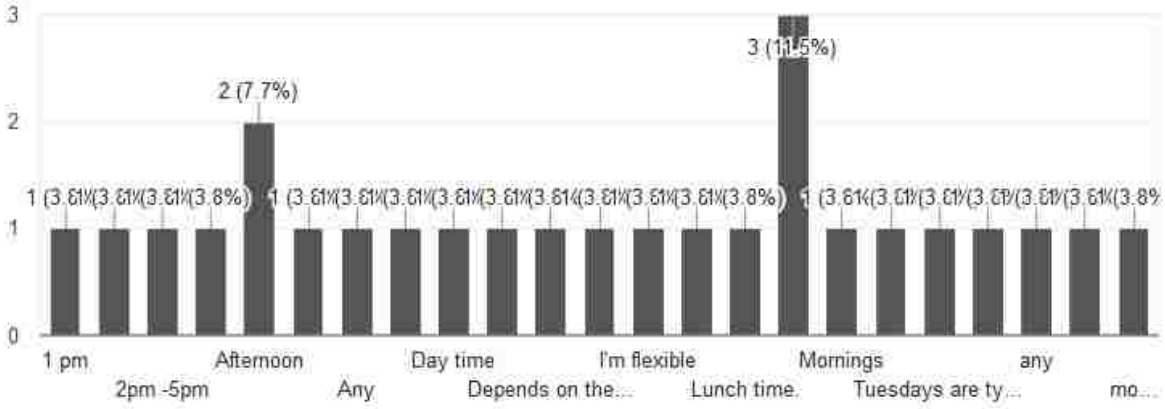
15. Would you be willing to serve on a committee to assist us in advising how we can best prepare students with the skills and training necessary to meet the needs of our community?



*16. If answered yes, what is the best days:



*17. If answered yes, what would be the best time to meet?



*These questions received only 26 responses. All other questions received 46 individual responses.

Appendix F.

External Partner Interview Questions

Semi-Structured Interview Questions:

Interview Protocol for External Partners

Name of Interviewee: _____ Date: _____

Preliminary Script: "This is Joe Rollins. Today is [day and date]. It is [time], and I am in [location] with [interviewee], the [title] of [institution]. We will be discussing perceptions of Don Tyson School of Innovation students in their pursuits of college and career preparedness as compared to traditional counterparts.

Introduction:

Please share with me, without mentioning specific business or industry name, what area of employment or postsecondary partnership do you represent?

Research Question 1: Based on your experience, how does the Don Tyson School of Innovation's personalized learning environment compare to traditional learning environments in terms of academic preparedness?

1. Based on the personalized learning that you observed at Don Tyson School of Innovation, how is it different from other traditional models? What are the pros and cons?
2. In your opinion, will the DTSOI personalized learning model lead to students being better prepared for college/school/career learning and work? Why or why not? Please cite specifics.

Research Question 2: How does the personalized learning environment of the Don Tyson School of Innovation compare to traditional learning environments when preparing students for regional job markets?

3. Based upon the skills needed at your place of employment/business/institution, what skills did you observe and NOT observe that are critical for success in your workplace?
4. You mentioned _____in regards to the perception/observation of our students. What was it that made this particular observation/perception stand out to you?

Research Question 3: What are the perceptions of the industries and post-secondary institutions in Northwest Arkansas of the Don Tyson School of Innovation's ability to match their needs for future employees and students?

1. What kinds of skills/opportunities/education would like to see added to DTSOI that would enhance the opportunities and readiness levels for our students?
2. What job markets will DTSOI students be able to fill based on your observation of our students, our school and the personalized education we are providing?
3. Which job markets are you concerned that we will NOT meet and what can be modified to make certain that the students are provided with the skills needed?
4. What desired skill sets are students at SOI meeting that will prepare students for regional markets? What are your concerns?

Closure and next steps:

5. What can we do to be better partners in education, preparing students to meet your business needs? Are there ways in which you would consider giving of your time/expertise?
6. What type of opportunities for internships/job shadowing/ work-study/ guest presentations/ mentoring could be provided by you and your employees in order for us to match employment needs and skills now and in the future so gaps do not continue and strong partnerships can form that will in turn help fill your employment needs?

Appendix G

Letter of Approval from Northwest Arkansas Council

NORTHWEST ARKANSAS COUNCIL

4100 Corporate Center Drive
Suite 205
Springdale, Arkansas 72762

October 16, 2017

Mr. Joe Rollins, Principal
Don Tyson School of Innovation
2667 Hylton Rd
Springdale, AR 72764

Joe:

Please feel free to use any information that the NWA Council provides to you in your doctoral dissertation.

Meeting our employer's workforce needs is priority one for the Council, and we applaud the Don Tyson School of Innovation's efforts to help us achieve our regional workforce goals.

We appreciate your leadership on workforce issues in Northwest Arkansas as well.

Sincerely,

Michael E. Harvey
Chief Operating Officer