THE EFFECTS OF COOPERATIVE AGREEMENT PROGRAMS BETWEEN TECHNOLOGY CENTERS AND COMMUNITY COLLEGES IN OKLAHOMA

By
NORMAN DEAN SMITHSON

Bachelor of Science
Northeastern State University
Tahlequah, Oklahoma
1986

Master of Science
Oklahoma State University
Stillwater, Oklahoma
1990

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Thesis Approved:

Dr. Rey Martinez
Thesis Advisor

Dr. Lynna Ausburn

Dr. Mary Jo Self

Dr. Ed Harris

Dr. A. Gordon Emslie
Dean of the Graduate College

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CHAPTER I

INTRODUCTION

In our American Society we value public education that prepares citizens for careers and life. Academic preparation has always been an important element of secondary education for students to proceed to higher education. Since the Smith Hughes Act of 1917, Vocational/Technical Education was added to the secondary education mission. Despite the literally thousands of efforts to improve schools since World War II, few have had significant or enduring effects on instruction or connecting vocational education to academic preparation for higher education (Ball & Cohen, 1999). A recent review of federally funded research suggests that researchers, educators and reformers now understand that "when curriculum, instructional materials and assessments are all focused on the same goals – that is when the policy systems that frame education are coherent – the prospects for educational improvements are enhanced" (Hirsch, Koppich & Knapp, 1998, p. 2).

Recent studies also show that policy makers and researchers have changed their views about school improvement and the role of teachers in the process (Finley, 2000). This research maintains that educational reform initiatives challenge classroom teachers to make sense of new policies, ideas, programs, and their own work. In addition, it suggests that teachers develop a stance toward their practice that focuses on learning and learners, one that promotes instructional coherence and improved opportunities for additional student learning.

Providing a bridge or link to employment has always been the strength of Career and Technical Education, however with changes in workplace technology additional preparation became necessary (Dutton, 1996). Dale Parnell, Executive Director of the American Association of Community Colleges first addressed the changing needs of industry and student preparation. Dr. Parnell published *"The Neglected Majority,"* (Parnell, 1985) that outlined the lack of preparation of the middle two quartiles of students in the public education system. Training students and employees to perform specific tasks on specific pieces of equipment was becoming impractical. Workers needed to understand the "why" as well as the "how" of equipment so they could learn to operate new equipment, diagnose problems and facilitate repairs. The U.S. Department of Labor recognized the need for students to have solid academic foundations in math, science and communication (Secretary's Commission on Achieving Necessary Skills, 1991. (SCANS)). The first efforts to emerge were the teaching of academic concepts in vocational courses, and the development of specific academic courses for teaching career and technical students applied academics (Dutton, 1996). A second initiative was to join academic preparation with career and technical education to address the projection that some postsecondary education would be necessary for workers (SCANS, 1991).

In 1990, the Carl Perkins Vocational and Applied Technology Act was passed which funded Tech Prep consortia in every state (Dutton, 1996). Making curriculum reform a reality was the central issue. Integrated methods and applied academics were included into vocational programs and high schools. Many schools eliminated general education programs and required all students to enroll in either tech-prep or college-prep programs (Dutton, 1996). In order to prepare students for the changing workplace,

academic coursework was more closely aligned with applied principles of technical education in a 2 + 2 format. Students complete two years at a secondary school in coursework designed to prepare them for two years of post-secondary technical education (SCANS, 1991).

This alignment of courses around technical education allowed for the clustering of coursework. Career clusters began to develop in the areas of engineering/technology, business/marketing, and health and human services. The primary focus in the early stages was at the secondary education level, but as the alignment model grew many vocational schools began working with community or technical colleges to form partnerships. According to the U.S. Department of Labor, a 2 + 2 + 2 format began to allow students to move from high school, through a vocational school and into a community technical college following an articulation model.(See Figure 1.)

I	2 years prep at secondary school	+	2 years technical education at technology center	+	2 years at community college
II	2 years at secondary technology center	+	2 years at community college	+	2 years at university

Figure 1: 2 + 2 Articulation Models (Hull & Parnell, 1991)

In 1994, the School-to-Work Opportunities Act officially extended the scope of aligned and articulated programs. Programs were begun nation-wide to allow for an official 2 + 2 + 2 system. Each state developed its own structure, procedures and accountability measurements. Articulation took many forms in different states; however

some key components were found in most instances. A typical format was a joint agreement between secondary and postsecondary schools on a curriculum for which students might receive advanced credit for courses or sequence of courses successfully completed at the secondary level (Proctor & McElvey, 2001). The benefits to the students normally included savings in tuition, since most advanced standing courses were transcripted free of charge. A student could also finish a program in a shorter time frame since many hours were granted before entry into the post secondary program. Eliminating duplicate coursework also allowed students the opportunity to take additional courses at the college level. One intangible benefit to the student was the building of bridges to a community college, which opened doors for some students who previously did not have the ability to attend (Bragg, 1999, a). The next step was for the student to matriculate into a university setting and pursue a bachelor's degree. The largest hurdle to this scenario was that few universities offered bachelor degrees in technical areas (Proctor & McElvey, 2001).

Oklahoma developed 1,108 individual articulated, cooperative agreements, involving 29 technology centers and 33 higher education institutions, with both in-state and out-of-state institutions (Career Tech, 2002). The Oklahoma State Regents for Higher Education indicated that there were 334 agreements of 53 programs involving 18 higher education institutions in Oklahoma (Blanke, 2005). Other states including Ohio and Georgia also developed similar state-wide programs. Ohio had 26 Tech Prep consortia comprised of 44 public colleges, all 23 community and technical colleges, all vocational educational planning districts, 400 of their 611 public school districts, and more than 600 communities, government organizations, businesses, industries and labor

unions (Ohio Board of Regents Report, 1999). Georgia involved 133 secondary schools, 24 technical institutes, and three colleges or universities. Statewide articulation agreements existed in the areas of business, English, health occupations, marketing, and mathematics (Proctor & McElvey, 2001). A Bachelor of Applied Science was created at the university level in Georgia to accommodate the new track of students that were matriculating through the system (Murdock, 1999).

Debra Bragg (1999 b.), a researcher for the National Center for Research in Vocational Education in Berkley California, in her report *Enhancing Linkages to Postsecondary Education: Helping Youths Make a Successful Transition to College*, identified many components in the School-to-Work and Tech Prep initiatives that enabled students to articulate into higher education settings. She utilized the concept of "*at risk youth*," whose aspirations were to attend college but whose chances of realizing that opportunity were diminished by conflicting personal and family life circumstances. The study primarily focused on the "…processes, policies, and practical approaches to forming effective linkages between secondary and postsecondary education" (p.18).

The following six key components of the federal legislation in the Carl Perkins Act (1990), and the School to Work Opportunities Act (1994) were outlined in Bragg's (1999, a) research:

1. Rigorous and engaging learning;
2. Formal articulation strategies;
3. Meaningful linkages between theory and practice;
4. Outcomes-focused curriculum;
5. Access and opportunity for all; and
6. Longevity through collaboration.

Brown (2001) measured the outcomes of eight Tech Prep consortia against the 6 afore mentioned components developed by Bragg. She relied exclusively on the data

generated by Bragg (1995, 1999 a, 2000, 2001 a) in her three-year study. The study compared and contrasted the goals, objectives, definitions, courses and highlights of the data generated in the previous studies. The summary of outcomes reinforced the findings of the Bragg studies and indicated that the sampled Tech Prep consortia were meeting the goals as outlined in the legislation. "Among the most positive outcomes at all of the sites was the high percentage of Tech Prep participants continuing to postsecondary education" (Brown, 2001, p. 8). College readiness, persistence, completion, credentialing and subsequent employment outcomes of Tech Prep students were included under further research needs.

When this study was undertaken there were no completed research studies describing the effects of articulated programs in Oklahoma. Initiatives had begun in technology centers and higher education institutions to begin to track the number of students who took advantage of cooperative enrollment agreements from enrollment in post secondary programs, granting of advanced standing and ultimately graduation. Connections were made; programs designed; polices were implemented; procedures were developed; goals along with outcomes and measures were identified and ways to measure success had begun to be tracked. However, the basic question of how cooperative agreements had truly affected students had not been addressed.

Statement of the Problem

There currently exists no baseline data from which to determine the effects of articulated technical education programs between Oklahoma Technology Centers and Higher Education Institutions. This lack of data makes it difficult to demonstrate

accountability for return of investment (ROI) benefits, No Child Left Behind (NCLB) compliance, or compliance with the School-To-Work Opportunities Grant (STWOG). No research exists to guide and inform program planning or to allow for continuous improvement.

Purpose of the Study

Cooperative agreements were designed to expand student access to education and to share technology center and higher education resources (Oklahoma Regents,2001). Students were to make a seamless, uninterrupted articulation to postsecondary institutions. This transition was facilitated through awarding of advanced placement hours to better prepare graduates for a changing workforce. The purposes of this study were to describe the nature and effects of articulated cooperative technical education agreements between Oklahoma Technology Centers and Higher Education Institutions.

Research Questions

The research questions developed to provide guidance to the study were:

1. What are the current demographics of cooperative agreement programs in the state of Oklahoma?
2. To what degree have articulated programs affected current student decisions to enroll in secondary career tech programs?
3. What do teachers and administrators perceive as the challenges of developing articulated programs at the secondary and post secondary levels?
4. What do teachers and administrators perceive as necessary for an ideal agreement to expand access to educational services?

Assumptions

The following assumptions are made regarding this research:

1. Students accurately and honestly indicated their knowledge of cooperative agreements, plans after graduation and reasons why they chose to enroll in career and technical education programs.
2. Survey participants, interview participants and focus group participants answered all questions accurately and honestly.
3. Administrators and instructors at both the career & technology and higher education institutions had sufficient experience in cooperative enrollment agreements to accurately reflect on challenges, expectations and future directions for agreements.
4. Instructors and administrators accurately reported their perceptions gathered in the interviews.

Limitations

This study had the following limitations:

1. The interview sample included individuals based on their job title and/or positions that might have had little knowledge of the development and implementation of cooperative agreements. A further sampling error might have occurred by the exclusion of individuals with large amounts of knowledge but because of retirement or changes in jobs left them outside of the sample set.

2. The data requested from state agencies may be incomplete, unavailable or not collected originally in a form that would allow for direct comparisons and analysis between schools and/or programs.
3. The research was limited to articulated (cooperative) programs in Oklahoma Career and Technology Centers to institutions of higher education. The Oklahoma State Regents for Higher Education and career and technology centers had cooperative, concurrent and articulation agreements with different institutions in other states and agencies. However, the agreements in Oklahoma and outside of Oklahoma had different variations and regulations it was difficult to generalize to other programs and states.

Definition of Key Terms

The following definitions were generated by the Oklahoma Department of Career and Technology Education and used in this study (ODCTE, 2004).

Academic Credit: The unit of measurement an institution awards when the determined course or subject requirement(s) are fulfilled.

Advanced Placement (AP): Credit and/or advanced standing in certain course sequences that postsecondary institutions may offer to high school students who have taken high-level courses and passed certain examinations.

Advanced Standing: Accelerated placement in a course of study based on prior education coursework.

Advanced Standing Agreement: An agreement between the State Regents for Higher Education, a technology center and a college or university to grant advanced

placement. The "advanced standing agreement" must adhere to the requirements in the State Regents' policy entitled, "Standards of Education Relating to Credit for Extrainstitutional Learning," which requires course by course validation at the college. Credit is not entered on the student's transcript until the student has accumulated 12 credit hours at the college. Definition is interchangeable with extrainstitutional learning.

Articulation: Advancement through different levels of an educational process from secondary to post-secondary education through alignment of curriculum and sequential coursework (Bragg, 1999a). There is no mention of articulation agreements in State Regents policy and the use of this term to denote an arrangement between a technology center school and a college is discouraged by the Oklahoma State Regents for Higher Education (Oklahoma Regents 2001). Oklahoma applies the term "articulation agreements" to denote agreements between higher education institutions which reflects the agreed upon transfer of college course credit via a matrix system (Oklahoma Regents, 2001)

Business and Information Technology Education (BITE): The occupational division of the Oklahoma Department of Career and Technology Education that administers business and information technology education programs in technology centers and comprehensive high schools. The division provides products and services to promote the development of a comprehensive delivery system that is customer-focused and client-based for business and information technology industries.

Career Cluster: Occupations that are grouped together by common job duties and characteristics.

Carl Perkins Vocational and Applied Technology Act 1990: Federal legislation that provides funding to states to develop more fully the academic, vocational, and technical skills of secondary and postsecondary career and technology education students. One means promoted the integration of academic and vocational technical instruction, including linkages from secondary to postsecondary education programs for participating students. Eligible recipients were pubic schools with vocational programs, technology centers and community colleges. The Act established allowable expenditures by federal statute and required each state to develop measures of accountability.

Competency: An underlying, performance-based capability that can be applied to new situations and environments. Competency can be a determination of occupational readiness.

Cooperative Agreements: Agreements between technology centers, the Regents of Higher Education, and junior, community, and four-year colleges. Under a cooperative agreement, institutions grant college credit for technical training received at a local technology center. Formal approved agreement between a college and a technology center to offer courses leading to an Associate of Applied Science (AAS) degree. AAS degrees may or nay not apply to a baccalaureate degree. Only the higher education institutions award college credit.

Curriculum: Instructional and related or supportive materials designed to prepare the individual for employment or to upgrade occupational competencies. Appropriate counseling and guidance materials are included. Courses, experiences and/or

assessments necessary to prepare students to advance from one educational system into another.

Distance Learning: A system and a process that connects learners with distributed learning resources and is characterized by separation of place and/or time between instructor and learner, among learners and/or between learners and learning resources and connectivity, interaction, or engagement between the learner and instructor, among learners, and/or between learners and learning resources and conducted through one or more media.

Extrainstitutional Learning: See advanced standing.

Family and Consumer Sciences Education (FACS): The occupational division of the Oklahoma Department of Career and Technology Education that administers Family and Consumer Sciences programs in comprehensive high schools and technology centers.

Health Occupations Education (HOE): The occupational division of the Oklahoma Career and Technology Education that provides leadership to Health Occupations Education programs across the state:

Integrated Academics: The incorporation of mathematics, science, written communication and reading in to *Career Tech* curriculum and technical information into academic content for the purpose of improving student understanding.

Matriculate: To enroll in a group, especially a college or university (Websters, 1978).

No Child Left Behind (NCLB): Federal education initiative focusing on accountability and quality teaching.

Occupational Program: A program of study designed to provide the student with sufficient knowledge and skills to perform in a specific job.

Postsecondary: Students beyond the compulsory age for high school who are enrolled in an educational program.

Oklahoma State Department of Career and Technology Education: A division of the educational structure of Oklahoma primarily responsible for technical education, employment and training, and workforce education.

Oklahoma State Regents for Higher Education: A division of the educational structure of Oklahoma responsible for the post-secondary education of students in higher education institutions.

Secretary's Commission on Achieving Necessary Skills (SCANS): National Department of Labor report on skills necessary for workforce development.

School to Work Opportunities Act 1994: Federal legislation which expand the opportunities for students by increasing the alignment of curriculum to include secondary, occupational and post-secondary education.

Seamless Education: An alignment of educational opportunities to enable students to transition from one level of education to another without loss of time, credit or repetition or increased risk of drop-out.

Secondary Career Tech Student: A student that is currently enrolled in a Career Tech program at a comprehensive high school or at a technology center with the intent of completing the required objectives or coursework.

Student Accounting System: A system for collecting data relating to Career Tech programs.

Tech Prep: A program of study assisted under the Carl Perkins Vocational and Applied Technology Act that include two years of postsecondary education; strengthens the applied academics component of Career Tech programs provides technical preparation; builds student competence in math, science, and communications; and leads to an associate degree or certificate in a specific career field and to employment.

Trade and Industrial Education (T&I): The occupational division of the Oklahoma Department of Career and Technology Education that oversees the training of students in a wide variety of occupational areas.

Significance of Study

Advances in technology continued to increase the requirements and knowledge base necessary for initial and continuing employment. The need for postsecondary education in many occupations has grown (Bragg, 1994, Parnell, 1990b). Cooperative enrollments continue to hold promise of providing a seamless transition model from secondary education to occupational education and postsecondary education centered on a career cluster. Oklahoma had put forth significant effort into developing and implementing cooperative enrollment initiatives that embraced the national Tech Prep model of articulation. Agreements had been in place since 1984 that would allow for a description as to the effects of the agreements. The significance of this study was the results provided insight into examining the effects of cooperative agreement programs to allow for greater measures of accountability, to allow for better planning to increase the strength of current agreements and aid in the development of future cooperative

agreements between Oklahoma Career Technology Centers and institutions of higher education.

Researcher's Experience with Cooperative Agreements

The principal researcher, Norman Dean Smithson was a graduate of Indian Capital Area Vocational-Technical School in 1978, where he received a 2 year completion and competency certificate in drafting. He then attended Northeastern State University as an undergraduate majoring in Industrial Technology with an emphasis in drafting and design. During the course of achieving a Bachelor of Science he was required to take several courses which had the same content as coursework he had completed while a student at the area technology center. In 1983 he began teaching at Central Oklahoma Technology Center and in 1986 served on one of the first articulation committees between the Oklahoma Area Vocational-Technical Superintendents, Oklahoma State Department of Vocational and Technical Education and Oklahoma State University Technical Branch, Okmulgee. The researcher has also worked on agreements with Tulsa Community College and Northeastern Oklahoma A&M in Miami. The researcher has developed ties and contacts with programs in career and technology centers as well as programs in institutions of higher education.

Researcher bias must be noted (Lincoln & Guba, 1985) with regard to cooperative agreement programs have developed with development and operation of agreements. Since developing the first cooperative agreement in 1986 the researcher was never involved with a review meeting. As an administrator at an area technology center for six

(6) years with cooperative agreements has not witnessed many incentives or information from the cooperating higher education institutions in Oklahoma.

Organization of the Study

Chapter I introduces the study and presents the problem, purpose, research questions, assumptions, limitations, definitions used in the study, significance of the study and also includes a brief history of the principle research experience with cooperative agreements. Chapter II provides a review of related literature regarding the history of cooperative agreements. Chapter III presents the research procedural methods used in the study. Chapter IV reports the findings of this study. Chapter V offers the conclusions and recommendations related to the results of the study.

CHAPTER II

REVIEW OF LITERATURE

Advanced Standing Academic Model

Originally there were several methods for granting credit for higher education learning external to the traditional college course model. The Oklahoma State Regents for Higher Education developed a policy, "Standards of Education Relating to Advanced Standing Credit" (Oklahoma State Regents for Higher Education, 1972) to facilitate the acceptance of nontraditional learning patterns. The original policy was adopted in 1972 and allowed for the colleges to evaluate the prior learning primarily through a testing format on a course by course basis.

The advanced standing academic model provided for advanced, more rigorous curriculum to be established in secondary education. Courses primarily developed in the academic course areas of secondary schools in AP Science, AP English and AP math. Sufficient rigor prior to transcripting of AP classes was validated by an end of instruction test. Students were required to successfully complete the second level of coursework at a higher education institution prior to receiving advanced standing credit of the AP courses completed at the secondary level.

Secondary students could also enroll in "concurrent" academic courses delivered through distance learning technology or on campus of a participating higher education institution. Prior to enrolling in concurrent academic coursework students must

demonstrate proficiency by completing an ACT test and scoring at a grade performance level established by the Oklahoma Regents for Higher Education. Based on performance, student's grades were transcripted at the completion of each semester. Many secondary schools allow concurrent enrolled classes to count as dual credit by allowing students college class work to count towards high school graduation requirements.

Non-accredited institutions of higher learning, vocational schools or experimental learning were evaluated and validated through examination or proficiency testing on a course by course basis by the receiving institution. Students needed to be enrolled at a higher education institution and complete 12 hours of instruction at the awarding post-secondary institution prior to the transcripting of the external coursework taken in secondary schools. Students could gain credit through the College Board's College Level Examination Program (CLEP), or the College Board's Advanced Placement Program (APP). Institutionally prepared examinations including performance testing could also be used by each institution. Advanced standing credit could also be granted to students who took international baccalaureate coursework at a "Higher Level," but only after 12 traditional hours had been completed and the international coursework validated.

The American Council of Education (ACE) was also used to allow for advanced standing credit if non-traditional course work was taken in the military or through business and industrial, labor unions, or governmental agencies. In all instances of awarding credit, the Oklahoma Regents placed the local college in control and restricted credit until after evaluation and validation of learned materials was demonstrated.

The costs to students for establishment of advanced standing credit were to be reflective as closely as possible to the actual costs for institutional administration of the

program. If a student decided to CLEP out of a course they would have to pay the testing fee and then the transcripting fee just as if one had taken the course. The only savings would be time since the student did not have to actually take the course, but he/she would need to pay a little extra for the testing opportunity (Parnell, 1990a).

Once a course was tested, validated and paid for, a grade of "P" for pass or "S" for satisfactory would be utilized to designate advanced standing credit on the official transcript. Conventional letter grades would not be used and the course would not count into a students overall grade point average. All credit earned through advanced standing would be so designated by placing the letters "A.S." on the transcript following each course (Oklahoma Regents, 2001).

Cooperative Agreements

Cooperative Agreements had evolved for over a decade. The fundamental mechanism that initiated articulation agreements was the 1990 reauthorization of the Carl D. Perkins Vocational and Applied Technology Education Act. The 1990 act (referred to as Perkins II) contained Title III E, the Tech Prep Education Act (Ruhland, Jurgens & Ballard 2003). The fundamental premise of Tech Prep and cooperative agreements was to respond to the needs of high school students who were often identified as the neglected majority and to meet the demand for increased skills in the workplace. Tech Prep was designed to provide a coordinated curriculum program for career preparation and workforce development. According to Bragg (2000) "Tech Prep was intended to establish formal articulation agreements identifying seamless and increasingly rigorous academic and career-technical programs having a logical progression from secondary to

postsecondary level" (p. 221). Bragg further stated, "Career and technical education (CTE) pathways from high school to college, like the Tech Prep program, have been an important reform and need to be continued and expanded in various ways" (p.5).

History of Tech Prep

Educators and reformers had often pushed for higher student academic achievement, while employers continued to express concern with the quality of the entering workforce. The Carl D. Perkins Vocational and Applied Technology Act of 1984 was the primary legislation supporting solutions to education and workforce preparation. This legislation addressed several issues affecting the workplace such as, skill shortages, ill-functioning high school vocational programs, lack of preparation for high tech jobs, and lack of clear career pathways for those students not pursuing postsecondary education (Brustein, 1993). While the notion of curriculum integration went back almost a full century to John Dewey (1916), it was not until the 1980's that cognitive scientists began to demonstrate empirically the power of this approach (Lave, 1988; Resnick, 1987).

In 1990, the Carl Perkins Act was reauthorized and the new legislation emphasized broad education reform efforts to improve workforce preparation. Perkins II focused on the integration of academic and career and technical education programs as well as articulation between secondary and postsecondary institutions. Based mostly on articulation agreements between high schools and community colleges, the Tech Prep model relied on the development and execution of 2 + 2 core curriculum, signifying that the last two years of high school would provide a seamless transition to the first two years

of college (Bragg, 2001a). Through the development of Tech Prep cooperative agreement programs, the non-college bound students; the "neglected majority" could transition from school to the workplace (Parnell, 1985). Perkins II included seven essential Tech Prep program elements including:

a. Articulation agreements;
b. Appropriate curriculum design. (2 + 2, 2 + 2+ 2, etc..);
c. Curriculum development;
d. In-service teacher training;
e. Counselor training;
f. Equal access for special populations; and
g. Preparatory Services.

(Brustein, 1993).

Of these seven elements, articulation agreements provided the foundation for Tech Prep by creating the curricular structure to extend the educational pathway to the postsecondary level for more secondary students. The articulation process had been beneficial to stimulate a dialogue among secondary and postsecondary educators about content and standards, and in the creation of new sequences of career and technical education courses. Even so, students often did not access the college credits they accumulated during high school. There were many reasons for this, including a lack of awareness that courses had generated college credit but also a lack of confidence in high school preparation (Bragg, 2001b). Taking a look at Tech Prep essential elements Pucel (2001) discovered that articulation agreements were developed but not necessarily implemented. Research by Puckett and Bragg (1997) revealed that mandated approaches to professional development for school counselors were not well received and also proved ineffective as one-size-fits-all programs. Puckett and Bragg (1997), further stated, "new professional development avenues need to be created to support counselor involvement in Tech Prep for the long haul" (p. 378).

In 1998, the Carl Perkins Act was reauthorized (referred to as Perkins III) and provided funding of Tech Prep programs for six more years. Major changes in Perkins III included developing formal connections between high schools, two-year colleges and four-year universities. Additional changes were to expand the use of education technology, distance learning and strengthening linkages to business and higher education. Tech Prep consortia five-year plans were required to include efforts that would provide education and training in areas or skills where there were significant workforce shortages and demonstrate how Tech Prep programs would help students obtain high academic and employability competencies ("A New Bill: Tech Prep Reauthorized for Six Years," 1998). Table 1 provides a comparison of the essential elements represented in the Perkins II and Perkins III legislation.

Table 1

Essential Elements of Tech Prep in the Perkins II and Perkins III Legislation

Perkins II (1990)	Perkins III (1998)
1. Articulation agreement between the participants in the consortium	1. Articulation agreement between the participants in the consortium
2. Two years of secondary school preceding graduation and two years of higher education, or an apprenticeship of at least two years following secondary instruction, with a common core of required proficiency in math, science, communications, and technologies designed to led to an associate degree or certificate in a specific career field.	2. Two years of secondary school preceding graduation and two years or more of higher education, or an apprenticeship program of at least two years following secondary instruction, with a common core of required proficiency in math, science, reading, writing, communications and technologies designed to lead to an associates degree or a postsecondary certificate in a specific career field.
3. Include the development of Tech Prep program curricula appropriate to the needs of consortium participants.	3. Include the development of Tech Prep programs for both secondary and postsecondary, including consortium, participants in the consortium that—

	(A) meets academic standards developed by the State; (B) links secondary schools and 2-year postsecondary institutions, and if possible and practicable, 4-year institutions of higher education through nonduplicative sequences of courses in career fields, including the investigation of opportunities for Tech Prep secondary students to enroll concurrently in secondary and postsecondary coursework; (C) uses, if appropriate and available, work-based or worksite learning in conjunction with business and all aspects of an industry; and (D) uses educational technology and distance learning, as appropriate, to involve all the consortium partners more fully in the development and operation of programs.
4. Include in-service training for teachers that – (A) is designed to train teachers to implement Tech Prep: (B) provides for joint training for teachers from all participants in the consortium; and (C) may provide such training on weekend, evening, summer, or workshops.	4. Include in-service training for teachers that – (A) is designed to train vocational and technical teachers to effectively implement Tech Prep programs; (B) provides for joint training for teachers in the Tech Prep consortium; (C) is designed to ensure that teachers and administrators stay current with the needs, expectations, and methods of business and all aspects of an industry; (D) focuses on training postsecondary education faculty in the use of contextual and applied curricula and instruction; and (E) provides training in the use and application of technology.
5. Include training programs for counselors designed to enable counselors to more effectively – (A) recruit students for Tech Prep; (B) ensue that such students successfully complete such programs; and (C) ensure that such students are placed in appropriate employment.	5. Include training programs for counselors designed to enable counselors to more effectively – (A) provide information to students regarding Tech prep education programs; (B) support student progress in completing Tech Prep programs. (C) provide information on related employment opportunities;

	(D) ensure that such students are placed in appropriate employment; and (E) stay current with the needs, expectations, and methods of business and all aspects of an industry.
6. Provide equal access to the full range of Tech Prep programs to individuals who are members of special populations, including the development of Tech Prep services appropriate to the needs of such individuals; and	6. Provide equal access, to the full range of technical preparation programs, to individuals who are members of special populations, including the development of Tech Prep program services appropriate to the needs of special populations; and
7. Provide for preparatory services which assist all participants in such programs.	7. Provide for preparatory services that assist participants in Tech Prep programs.

(Carl D. Perkins Vocational and Applied Technology Education Act Amendments of 1990 and 1998, Bragg 2001a).

Perkins III increased accountability by requiring states to incorporate new data collection and reporting methods for the Perkins four core indicators; student attainment; credential attainment; placement and retention; and participation in nontraditional training and employment (American Vocational Association, 1998). Each state was required to include in their state plan, the development and implementation of Tech Prep programs. Although the Tech Prep platform had been established at the federal level, individual state legislation ultimately influenced the Tech Prep process at local levels. This characteristic permitted each local consortium to develop programs adaptable to meet regional education, business, industry and government needs. Various combinations of strategies and programs were being implemented under the Tech Prep umbrella. Tech Prep Associate Degree programs and Bachelor Degrees in Applied Technology had been surfacing across the nation, despite conflicting issues regarding

ownership and involvement within the secondary and postsecondary components (Parnell, 1990b). Variations in local implementation policies were evident in national studies of Tech Prep implementation (Bragg, Layton, & Hammons, 1994; Hershey, Silverberg, & Owens, 1996).

Collaboration between the U.S. Navy and Mountain Empire Community College in Virginia resulted in a unique Tech Prep program that combined high school courses, college courses and Navy training, ultimately leading to an associate degree in engineering electronics technology or manufacturing technology (Navy's Tech Prep Program Sets Sail," 1999). In Pacific Grove, California, the high school Tech Prep program had been designed to concentrate on preparing students to succeed in life and the world of work, while offering non-technical career paths such as the arts and hospitality (Black, 1995). In Seattle, the Boeing Company offered a Tech Prep Associate Degree Summer Intern Program, which provided students with three progressive summer sessions of manufacturing career exploration and production floor skill training (Hull & Parnell, 1991). Through the local Tech Prep initiative, the Hand's-On Training (HOT) Lab located at the Lake Land College Workforce Development Center, Illinois, had expanded to introduce various occupations in manufacturing skill areas to those high school students interested in manufacturing careers ("HOTlabs Sparks Applied Learning," 2001). HOTlab allowed students to experience math and science in real manufacturing situations. How secondary schools, two-year colleges and four-year universities decided to implement Tech Prep would continue to be a major factor influencing career and technology education and whole-school reform.

Tech Prep's Link to Career and Technical Education

Jacobs (2000) proposed that Tech Prep could serve an important function as "the glue that holds the secondary and postsecondary career and technical education system together" (p. 52). Career and technical education had a greater chance of benefiting students at the postsecondary level through implementation of an important Tech Prep concept, a seamless system between the secondary and postsecondary institution. According to Bragg (2000), Tech Prep had been successful partially due to articulation agreements that required secondary and postsecondary schools to collaborate and develop seamless curriculum. Students stood to benefit most if both career and technical education and Tech Prep could be extensively shared.

Another major goal of Tech Prep had been centered on improving the academic achievement of students enrolled in career and technical education. Applied academics taught academic concepts using real-world, work-related applications and had placed Tech Prep as a leader in contextual learning and applied academics (Thompson, 2000). D.E. Brown (2000) compared contextual learning to "connected" learning. Meaningful learning occurred "when the learner sees purpose and application for newly acquired knowledge and skills" (p.32). Since the 1985 publication of *The Neglected Majority* (Parnell, 1985), educators had taken a closer look at different learning styles and teaching methods. Textbook content continued to be upgraded in an effort to reach both abstract and concrete learners (Dutton, 1996).

Smaller Learning Communities

Other indirect links to connecting high schools, career education and higher education had been through developing new structures to accommodate career academies and smaller learning communities. These organizational initiatives were begun as projects through High Schools That Work (HSTW) initiative which was created in 1985 to address employer concerns that high school graduates were not being prepared for successful employment. HSTW programs were not synonymous with Tech Prep or career and technical education, but each had similar goals. All three programs had the common goal of closing the achievement gap between career and technology education students and those pursuing a college preparatory program of study. The HSTW program taught academic content through an applied process, by requiring students in career and technical programs to complete additional courses in math and science, and by encouraging academic and technology teachers to work together (Bottoms, 1993). The collaborative efforts of career and technical education, Tech Prep and HSTW were envisioned to enable schools to achieve the goal of raising the academic achievement level of career-bound high school students.

Career academies, which were growing in number nationwide, were schools within schools described as small learning communities. "Students are enrolled in 'core courses' where academy-only students are taught academic and technical skills centered around a career focus" (Herrman, 2000, p.1). The academy design ensured "graduates are academically and technically proficient, have marketable job skills, and are academically prepared to enroll in postsecondary education" (Lynch, 2003, p.37). Through the alignment of Tech Prep and career and technical education programs, career

academies were increasing students' options for the future (Bottoms, 1993). There were currently 16 career clusters as identified by the Office of Vocational and Adult Education, U.S. Department of Education. These clusters were: Agriculture, Food and Natural Resources; Architecture and Construction; Arts, A/V Technology and Communications; Business, Management and Administration; Education and Training; Finance; Government and Public Administration; Health Science; Hospitality and Tourism; Human Services; Information Technology; Law, Public Safety and Security; Manufacturing; Marketing, Sales and Service; Science, Technology, Engineering and Mathematics; and Transportation, Distribution and Logistics.

Although there were still no school that had begun academics in all 16 clusters exclusively, many schools had begun to group or cluster their academic and technical coursework in selected situations (Bragg, 1995). Many of the clustering initiatives had begun as pilot programs and were still in the development and growth stages of implementation.

School-to-Work Opportunities Act

While it was a cliché to say that we lived in a global economy, this fact, with all of its attendant implications, had profoundly altered the nature of the skill sets required for success in today's workplace. Against a backdrop of concern over declining U.S. economic fortunes in the late 1980's the School-to-Work Opportunities Act (STWOA) was developed. Passed in 1994, STWOA was designed to encourage states to create more coherent systems to bridge the gap between education and work for all students, not just the select few who aspired to a narrow range of professional careers that offered

transparent pathways (Hamilton, 1995). Unlike Perkins II which revamped existing career and technical education programs, STOWA established a national framework for the development of new systems to help youth make the transition from school to the workplace by forming coalitions of postsecondary institutions, employers, labor organizations, government, community groups, parents and students (Stone & Aliaga, 2003). These coalitions were built on the belief that students learned best by doing and then applied what they learned in a school-to-the-workplace design. STWOA funded school-employer partnerships to design and implement work-based learning programs (Levesque et al., 2000). Although STWOA focused on systems development rather than on program improvement, as with Perkins II, it also included specific language about attaining high academic as well as occupational standards. The STWOA sunset was in October of 2001. However, many states continued with School-to-Work activities because the federal funds were intended to be seed money (National School-to-Work Office, 2003).

The Status of Tech Prep

Since beginning Tech Prep in the early 1990's student enrollments had increased. Enhanced implementation activities involving more teachers, greater emphasis on guidance, more integrated instruction, and heightened recruitment were only a few of the specific strategies that had been employed to help the Tech Prep programs grow in size and scope. On average, Tech prep enrolled about 15 percent of the high school students during the 1996-1997 academic years and had undoubtedly grown more since that time (Bragg, 2001b). By the fall of 1995, Tech Prep was offered in well over half of the comprehensive high schools and the vast majority of community colleges in the United

States (Bragg, 1997; Silverberg, 1996). Precise enrollment statistics were not available on a national level since completion of the national evaluation of Tech prep sponsored by the Office of Vocational and Adult Education (OVAE) in 1998. However, some states reported fairly sizeable growth in student participation, particularly during the past five years (Bragg, 2000; Brown, 2002).

Even though enrollments were increasing, Tech Prep implementation had experienced difficulties. Concerns about unclear goals and ambiguous definitions for Tech Prep programs and student participants had been pervasive (Elliot, 2000), and had been associated with many approaches to and criticisms of Tech Prep. Further, studies conducted by Hershey, et. al. (1998), Bragg (1999b), Orr (1998); and Prestine and Bragg (1998) pointed to the uneasy fit between Tech Prep and other K-12 school reforms, including the School –To-Work Opportunities Act (STWOA) and Coalition of Essential Schools initiatives. An earlier study by Bragg & Hammons (1994) pointed to various barriers to local implementation such as lacking planning time between academic and vocational faculty at the secondary and postsecondary levels, the failure of four-year colleges and universities to recognize applied curriculum as legitimate preparation for college, lack of general awareness about Tech Prep and limited staff, time and money to support proposed changes. Whereas some of these concerns had become less pronounced over time, many had remained (Bragg, 1997; Hershey, et.al. 1998). Local consortia experienced continuing challenges as they attempted to extend and deepen Tech Prep as a means of creating improved learning experiences for more students seeking postsecondary, typically two-year, educational opportunities.

Oklahoma's Current Policy for Awarding Credit through Cooperative Agreements

Currently the Oklahoma State Regents for Higher Education still placed the granting of extrainstitutional credit under the general policy regarding advanced standing. The Regents had also developed a specific procedure manual on how to develop, submit and manage cooperative agreements. The procedures were outlined in, "Guidelines for Approval of Cooperative Agreements between Technology Centers and Colleges" (Oklahoma Regents for Higher Education, 2001). The policy was adopted in October of 1988 and subsequently revised in January of 1997 and June of 2001. The latest revision was completed in December of 2001. The policy identified the purposes of cooperative agreements as; "expand student access to education and share technology center and higher education resources" (p.1). The policy also provided the following definition of cooperative agreements;

> Formal approved agreement between a college and a technology center to offer courses leading to an Associate of Applied Science (AAS) degree. AAS degrees may or may not apply to a baccalaureate degree. Only the higher education institutions award college credit. (p.1).

The policy and procedures provided for a separate mechanism for secondary and postsecondary students. A notable variation from previous policy was that high school students must sign a "Declaration of Intent" indicating that they planned to attend the participating higher education institution. Secondary students were also directed to maintain a "B" average in all coursework to enable them to receive the advanced standing credit. No such requirement was present for adult students. Secondary students would only be able to have a "P" for pass or an "S" for satisfactory placed on their official college transcript. These P and S grades would not be used in the calculation of the

overall grade point average. The P or S grade would not be placed on the transcript until after secondary students successfully completed 12 hours at the higher education institution. This system was commonly referred to as the "banking" of hours. A secondary student had to take advantage of the cooperative agreement within two years of graduation, follow admittance procedures of the receiving higher education institution, provide a copy of the "declaration of intent" and request the advanced standing hours be transcripted after they complete the prescribed 12 credit hours (Oklahoma Regents, 2001).

Adult students did not have to follow the same procedures as secondary students. An adult student as defined was above the age of 18. The policy did not indicate that the adult student had to be a high school graduate only that his/her class had graduated. The format for transcripting of the classes in a class by class format or as a block was left to the details of each cooperative agreement proposal. Assignment of grades in a letter format or a pass/satisfactory format was left to the details of each cooperative agreement proposal (Oklahoma Regents, 2001).

The policy also set up procedures for approval of cooperative agreements. The procedural steps were outlined from approval of the individual College Board, through the institution, state regent's staff, chancellor and ultimately the state regents. The content of each cooperative agreement was outlined into a step by step process. Each agreement was to have:

- Signature Pages;
- Name of degree program toward which credit would be awarded;
- Titles of modules, courses or programs;
- Amount of academic credit for each module, course or program;
- Academic credentials of faculty;
- Clock hours of classroom and lab instruction;

- Financial arrangements between college and technology center;
- Tuition and other charges;
- Utilization of classroom and lab;
- Arrangements for assessments;
- How records would be maintained and how credit would be transcripted;
- Procedures for annual review;
- State how and if General Education courses would be a part of the agreement; and
- State if high school students would be enrolled in the agreement.

(Overview of Cooperative Agreements, Oklahoma Regents for Higher Education, 2001, pg 6 & 7)

The guidelines also outlined the reporting mechanisms and structures. According to regents policy the following multiple data fields must be maintained and reported:

- Number and kinds of programs;
- Participating colleges and schools;
- Number of students enrolled;
- Credit hours granted;
- Degrees conferred;
- Faculty qualifications;
- Employment information;
- Marketing information; and
- How academic rigor is achieved.

(Overview of Cooperative Agreements, Oklahoma Regents for Higher Education, 2001, pg 8)

Since the State Regents for Higher Education had the authority to grant and award credit, the Oklahoma Department of Career and Technical Education did not have a separate policy in regard to the policies and procedures of cooperative agreements. The department simply assisted area technology centers to complete and submit information to the Regents to facilitate the approval of agreements and the awarding of advanced standing credit. As detailed multiple times in the Regents policies and procedures "only the higher education institutions award college credit" (p.1), the Oklahoma Department of Career and Technology Education simply aided in the process.

Oklahoma's Future Procedures for Cooperative Alliances

The Oklahoma State Regents for Higher Education and the Oklahoma State Department of Career and Technology Education were in the early stages of generating a new and or modified procedure for developing, aligning, managing and tracking cooperative agreements. A new system has been proposed to be developed in an "Alliance" model. None of the arrangements and/or procedure had been completely approved or implemented but three pilot schools were to begin development and implementation during the 2005-2006 academic school year. The regents selected an urban school and technology center, Oklahoma City Community College and Francis Tuttle Technology Center; a rural higher education institution and technology center, Northern Oklahoma College in Tonkawa and Autry Technology Center in Enid; and schools within close proximity of each other, Western Oklahoma State College and Southwest Technology Center in Altus (Blanke, 2005).

The development of the new process held the driving principle that the agreements be student-centered, not institution-centered. The new alliance model also held the goals of:

- Get more high school students into college;
- Get more adults to continue their education or begin college;
- Expand access to postsecondary education; and
- Efficiently use federal, state and local resources.

(Blanke, 2005)

Reviewing an official draft copy of the "Guidelines for Approval of Cooperative Alliances and Agreements between Career Technology Centers and Higher Education Institutions," which had passed the Oklahoma State Regents, Council on Instruction on January 13, 2005 the most notable difference was that Career and Technical Education

was being mentioned as a cooperating partner. The guidelines laid out the following requirements or procedures for creating a cooperative alliance: Signatures; Administration; Academic; Scope of the Cooperative Alliance; Curriculum; Student Support; Quality Control; Sharing Resources; Marketing; and Reporting (pgs 2 & 3).

The 10 requirements for forming an alliance were then followed by procedures to create a "Cooperative Program Agreement." A "Cooperative Program Agreement" was then formed within a "Cooperative Alliance." The procedures for forming a cooperative program agreement were the same procedures used previously to create a cooperative agreement with only slight modifications and clarifications. Perhaps one of the largest changes to the existing procedures was that existing cooperative agreements were to be reviewed within the context of the alliance and be renewed or deleted by the end of the 2007 fiscal year. Additionally, all program agreements would include a specified period of time with criteria to be met if the agreement was to continue beyond the specified date. (Oklahoma Regents, 2005).

Procedures for grading, transcripting and reporting were outlined in the new policy guidelines with the majority of all the details to be worked out among the two cooperating institutions forming the Alliance. Another variation to the existing guidelines was that the reporting of the annual report would be summarized for each Cooperative Alliance, and be done jointly by the higher education and cooperating career tech institution and then submitted to State Regents.

One of the most important changes to the Cooperative Alliance model was the transcripting of secondary students at the time of completion of the technical course provided at the technology center and the granting of the appropriate letter grade which

could be used in grade point average calculations. This essentially removed the separation of secondary and postsecondary classifications for the purposes of cooperative enrollment programs. Adults previously could be "concurrently" enrolled in institutions of higher education whereas secondary students had to wait to be admitted after graduation and their accumulated or banked hours were not transcripted until they had successfully completed 12 hours at the receiving institution and then only in a "P" or "S" format (Oklahoma Regents, 2001).

In order to facilitate this change in enrollment, grading and transcripting a change had to be made in the State Regents Policy on "Admission To, Retention In, and Transfer among Colleges and Universities of the State System" (Oklahoma State Regents, 2004). Section "D," Concurrent Enrollment of High School Students, was amended to more clearly define concurrent students as being:

> High schools students taking classes on campus; high school students taking off-campus distance learning classes; high school students taking off-campus courses that are part of a regular program of study (A.S., A.A.S., etc..); high school students taking off-campus courses through "regular faculty" either synchronous or asynchronous instruction.
>
> (Oklahoma Regents, 2004, pg .1)

The definitions were moved from other places in existing policies to more specifically outline the inclusion of secondary students who were eligible to concurrently enroll through technology center courses that were part of a program of study, in most cases an A.A.S.

The policy was further expanded to include the section of "Concurrent Enrollment of High School Students in Technical Programs and Courses." This section allowed for provisional admittance of high school students if they met the requirements of;

ACT/SAT at the 42 percentile, or an ACT PLAN score that predicted such student performance, or High School GPA of 2.5 (Oklahoma Regents, 2004). These new requirements were implemented to allow for the entrance of students who desired to attend a regional university or a two-year college after high school graduation. The new requirements lowered the percentile of attainment from the 58th percentile for eleventh grade students desiring to concurrently enroll in distance learning or on campus class to attainment of the 42nd percentile to cooperatively enroll in courses offered at an area technology center. The GPA was also lowered from a 3.5 to a 2.5 for purpose of determining eligibility to concurrently enroll (Oklahoma Regents, 2004).

Current Process of Measuring Effects of Cooperative Agreements

Mechanisms for monitoring articulated credits among college entrants were not fully developed in schools studied by Bragg (1999a) or Brown (2000). Some higher education institutions were more sophisticated at collecting information relevant to the articulation process than others. Though not the only reason, issues surrounding articulated credits and monitoring their usage had prompted a recent national trend among two-year colleges to offer dual credits or concurrent enrollment (Bragg, 2001a). With dual credits, students would receive college credit at the time a course was completed in high school rather than after college enrollment and sometimes after a required semester or two lag-time. By awarding the credit more immediately consortium leaders were attempting to streamline the articulation process and make articulation a tangible reward for student participation (Bragg, 2001a). Oklahoma had begun initiatives

incorporating an alliance model to follow the national trend and transcript course work in a real-time method (Blanke, 2005).

Time savings was revealed as the greatest benefit linked to students in regard to articulated credits above monetary savings. Either students identified community college low tuition rates or demonstrated a lack of understanding of the actual costs of enrollment at college since the large majority of Tech Prep students were from lower to lower middle quadrilles of income and thus qualified for substantial financial aid (Stone & Aliaga, 2003).

The Oklahoma State Regents for Higher Education staff currently tracked several components of cooperative agreements through a survey format to the participating institutions. The Regents staff reported on: the number of cooperative agreements; number of colleges participating; number of Career-Technical schools participating; enrollments; credit hours generated; and degrees conferred. This information was generated in a self-reporting survey format and each reporting institution provided the data. After discussions with state staff members and administrators from two-year higher education institutions they all indicated that the accuracy of the data was difficult to establish since the definition of what exactly a cooperative enrolled student was, and a mechanism for identifying students either at enrollment or gradation was not clearly established (Blanke, 2005).

The Oklahoma State Department of Career and Technical Education reported on 11 different aspects of Oklahoma Tech Prep cooperative enrolled students, based on data reported by each individual Tech Prep Consortium (McCharen, 2004). The data were broken down into the number of 11^{th}, 12^{th} and 13^{th} year students involved, and

information was self reported for: students completing high school; students transitioning to postsecondary; students requiring remediation courses; students completing postsecondary programs (AAS, AS, BS, BT…); students obtaining related employment; students completing occupational competency testing; state and national credentials; non traditional participants; and non traditional completers (McCharen, 2004).

Difficulties arose when trying to complete and compile the requested information because there was no one software program used for student accounting among the various consortiums and the variation of the information that the schools accumulated. Some of the requested information was for activities that took place after the student had left the technology center consortium and the reporting by students back to the consortium was difficult to obtain. The majority of the data was gathered from the annual follow-up survey done for all technology programs done in April of each calendar year. Being able to identify the number of students taking remedial coursework or actually completing postsecondary education was outside the scope of the report (McCharen, 2004).

Summary

Students enter high school with different levels of academic preparation, different home and neighborhood backgrounds, varying degrees of commitment to education, and a wide range of goals and aspirations for their post-high-school years. While federal legislation has sought to increase the availability of postsecondary career and technical education for all students, high schools have tended to have their own internal logic.

Despite years of reform efforts, most high schools still have a recognized track or concentration for academically gifted students and a track or concentration for students thought to be headed for early entry in the labor market (Stone & Aliaga, 2003). The rest of the students were left to wander haphazardly through their high school years – a problem that had been recognized for more than a decade (Hallinan, 1994; Hughes, Bailey & Mechur, 2001; Oakes, 1994). These students represented a third of the student population, the neglected majority (Parnell, 1985).

Whereas some attention has been paid to evaluation of Tech Prep to document implementation, estimate enrollments, and to ensure compliance with legislative requirements, little attention had been given to the relationship between Tech Prep implementation and student outcomes (Bragg, 2001a). This review of literature outlined the national perspective to strengthen the academic requirements for all students; align curriculum among secondary and postsecondary institutions; and to develop a seamless system to allow for students to matriculate into postsecondary institutions. The review of literature and polices pertaining to Oklahoma's initiatives to accomplish the national goals were aligned with the national models and reported many of the same challenges as the national studies.

Perhaps it would be more realistic to focus away from trying to identify and count Tech Prep or cooperative enrolled students. This process had often resulted in incomplete and inaccurate local, state and national data. A greater challenge was getting secondary and postsecondary schools to cooperate and report the data. The communication between secondary and postsecondary schools was minimal, and reporting of students was often lost in matriculation (Ruhland, Jurgens, Ballard, 2003).

CHAPTER III

METHODOLOGY AND PROCEDURES

Introduction

The purpose of this study was to describe the nature and the effects of articulated cooperative technical education agreements between Oklahoma technology centers and higher education institutions. This study included discovering the perceptions of administrators, teachers and students of cooperative enrolled programs. The researcher developed a student profile and gathered data to identify the type of students enrolled in cooperative enrollment programs, identified reasons for their enrollment and their plans after graduation. Administrators and instructors were interviewed to identify their perceptions regarding challenges and input regarding necessary components to expand and improve cooperative agreements.

Presented in this chapter are the methods and procedures followed in collecting and analyzing the information gathered. The following sections are detailed in the chapter: research design; population; subjects; instrumentation; data collection; and analysis of data procedures.

Research Design

The research was primarily a qualitative study using a mixed methods approach to answer the research questions. Based on the desired information held by certain sub-

population groups, a selection of either a qualitative or quantitative approach was determined. Then a determination was made of the most efficient process available to gather the desired data. A written questionnaire was developed to gather information from students to help answer some of the research questions. An interview component was identified as the most advantageous method to garner information from administrators and teachers who were involved with developing and operating cooperatives agreements. A focus group of primary stakeholders who reviewed the information gathered from the students, administrators and instructors was identified as a reliable method to allow for triangulation of the information gathered. The focus group also identified trends and patterns regarding the data collected.

Preliminary Arrangements

The researcher contacted the Associate State Director of the State Department of Career and Technology Education and the Director of Academic Programs at the Oklahoma State Regents for Higher Education to discuss the purpose of the study. These individuals agreed to assist in the development of contacts within each educational system to provide resources for rich meaningful interview data.

Following the meetings with the state education officials, the researcher gathered descriptive data from the area technology centers regarding their existing cooperative agreements. A separate comparative data set was provided by the Oklahoma State Regents staff. These two data sets were analyzed to: 1) identify the largest concentrations of agreements by school and occupational areas; 2) compare number of college credit hours among similar programs; and 3) compare number of college credit

hours among similar higher education institutions. The two sources of data did not align completely. The technology centers reported agreements on a course by course basis whereas higher education reporting format counted agreements by technology center and/or by occupational area. For example the carpentry programs at Indian Capital Technology Center was reported as six agreements by the technology center with two programs in Muskogee and one each in Sallisaw, Stillwell, Stigler and Tahlequah. OSU-Okmulgee reported only one agreement with Indian Capital Technology Center. Table 2 shows the data regarding the cooperative agreements in Oklahoma as reported by the area technology centers and the Oklahoma State Regents for Higher Education.

Table 2

Reported Existing Cooperative Agreements by Educational System

	Oklahoma Regents for Higher Education	Oklahoma Technology Centers
Number of Agreements	334	714
Programs Involved	53	108
Technology Centers	29	29
Tech Center Campuses	n/a	51
Higher Education Institutions	18	18

Two notable differences presented in Table 2 are the different number of agreements and programs reported by the State Regents classifications and individual technology centers. This variation was due to the difference that each system classified

programs and agreements. A decision was made to use the technology center data to identify individual secondary programs to sample in the collection of student data. The technology center reporting of cooperative agreements was broken down by occupational areas of Trade and Industrial Education, Business and Information Technology Education, Health Occupations, Family and Consumer Sciences Education, Marketing Education and Agriculture Education. Table 3 lists the occupational areas by number and percentages as reported by the Oklahoma Department of Career and Technology Education.

Table 3

Number and Percentages of Oklahoma Cooperative Agreements by Occupational Area as Reported by Oklahoma Career and Technology Centers

Occupational Area	Number	Percentage
Trade & Industrial Education	347	48 %
Business & Information Technology	220	31 %
Health Occupations	104	15 %
Family & Consumer Sciences	35	5 %
Marketing	7	1 %
Agriculture	1	0 %
Total	714	100 %

Table 3 data revealed almost half of all cooperative agreements were categorized within Trade and Industrial Education programs. Approximately one third of all

cooperative agreements were in Business and Information Technology Education programs, with the third largest percentage in Health Occupation Education programs. Family and Consumer Sciences, Marketing and Agriculture all had five percent or less.

Technology Center reports of cooperative agreements were then reassembled by grouping individual agreements with their cooperating institutions of higher education. After all the technology center agreements were categorized to their partnering higher education institution, the agreements were categorized into their respective occupational areas. Table 4 provides a matrix divided by institutions and occupational areas.

Table 4

Number and Percentages of Oklahoma Cooperative Agreements by Higher Education Partner and Occupational Area

Higher Education Institution	Occupational Area							Percentage
	T & I	BITE	Health	FACS	Mktg.	Agric	Total	
OSU Okmulgee	128	72		9	1		210	29%
OK City Comm. College	30	14	20	3			67	9.30%
Tulsa Comm. College	12	25	10	5	3		55	7.80%
Rose State Coll.	35	6	6	4			51	7.20%
Northern Oklahoma	6	21	17	2			46	6.50%
Rogers State College	21	14	6	1	1		43	6.10%
Murray State	15	17	6	1			39	5.50%
Western Comm. College	27	6	5	1			39	5.50%
Northeastern A&M	21	5	6	5	1		38	5.32%
Connors	17	8	5		1		31	4.40%
OSU OKC	6	12	13				31	4.40%
Redlands Comm. College	5	9	4	2		1	21	2.94%
Seminole State College	4	7	5				16	2.24%
Eastern OK State College	10		1	1			12	1.7%
Cameron State Univ.	4	1		1			6	0.84%
Panhandle State Univ.	4	1					5	0.70%
Southwestern State Univ.	2	1					3	0.42%
Carl Albert State College		1					1	0.14%
Totals	347	220	104	35	7	1	714	100 %

Cooperative agreements between OSU-Okmulgee and technology center programs showed the greatest concentration of the total number of agreements. All other higher education institutions were below 10 percent of the total number of agreements.

Population and Sample

Twenty-six of the 714 agreements as reported by the Oklahoma Technology Centers were selected for student sampling. Many of the selected programs had multiple cooperative agreements with different schools and multiple teachers in the same program. The selected agreements were chosen using a random selection process as outlined in Witte (1985), using Table G, Random Numbers (p.379). It became clear that in some programs there were several teachers teaching different classes within the program area. A decision was reached to sample all teachers of multiple classes of each selected program. This decision increased the number of classes sampled from 26 to 44. Trade and Industrial increased from 13 to 16 individual classes. Business and Information Technology increased from eight to 18 individual classes. Health Occupations increased from 4 to 8 individual classes, and Family and Consumer Sciences increased from one to two individual classes. This expanded the number of classes and students sampled but maintained the number of agreements sampled.

The agreements that were selected for sampling did not include the seven cooperatively enrolled marketing or the single cooperatively enrolled agriculture program. The Marketing programs were omitted because the Marketing Division at the Oklahoma Department of Career and Technology Education had been dissolved and the existing marketing programs had been absorbed by Business and Information Technology

Education division. The single agriculture cooperative agreement was omitted from this study because its singular location would not allow for the possibility of a random or anonymous sample.

The types of Trade and Industrial (T&I) agreements selected were: Aviation, Graphic Arts, Drafting, Precision Machining, Electronics (2), Auto Body, Network Technology (3), Commercial Electricity, Carpentry (2), Auto Service Technology, Welding, Medium/Heavy Duty Truck Service Technology, and Computer Imaging.

The types of Business and Information Technology Education (BITE) agreements selected were: Business and Information Technology (4), Business and Computer Technology, Accounting Services, Advanced Accounting, Network Administration, Cisco Certified Network (2), Computer Service Technology (3), Business Management (2), and Certified Computer Web Foundation (4).

The types of Health Occupation Education (HOE) agreements selected were: Emergency Medical Services Technology (4), Basic ECG Interpretation, Health Careers Certification, Health Science Technology, and Surgical Technology (3).

The Family and Consumer Sciences (FACS) agreement selected was Culinary Arts (2). Table 5 provides information in regard to the selected agreements by occupational area.

Table 5

Agreements Sampled by Occupational Area

Occupational Area	Number of Agreements	Agreements Selected	Percentage of N	Percentage of total agreements selected
Trade & Industrial	(N = 347)	13	3.7 %	50 %
Business & Information	(N = 220)	8	3.6 %	31 %
Health Occupations	(N = 104)	4	3.8 %	15 %
Family & Consumer	(N = 35)	1	2.8 %	4 %
	(N= 706)	26	3.7 %	100 %

The total number of agreements selected was 26 (3.7 %) of the 706 eligible cooperative enrolled agreements after the removal of the seven (7) marketing and agriculture agreements. This sample percentage matched closely with each occupational area sample percentage. The percentage of total agreements selected matched closely with the total number of agreements percentage for each occupational area as reported in Table 3. The selected programs provides for a stratified sample population that aligns with the enrollment of students within the four occupational areas of career and technology education in Oklahoma. The selected programs also provide for a stratified sample population that matches each occupational area with regard to the number of cooperative agreement programs.

Survey Questionnaire

Student data was gathered via a mailed survey to the instructors of each selected program. The researcher developed a student questionnaire to measure student perceptions and knowledge of cooperative agreements to help answer the study's research questions. According to Key (1994), a good survey:

a. Dealt with a significant topic;

b. Sought information which could not be obtained from other sources;

c. Was lengthy enough to get the essential data;

d. Was attractive in appearance and neatly arranged;

e. Had clear and complete directions;

f. Defined important terms;

g. Contained objective questions, with no leading suggestions as to the response desired;

h. Presented questions in good psychological order, proceeding from general to more specific responses;

i. Avoided annoying or embarrassing questions; and

j. Was easy to tabulate and interpret.

The initial components of the questionnaire were designed to determine some basic demographic information about the students such as gender, educational level and stage in the training program. The survey then proceeded to inquire if the student was aware of college credit being available to their program, and more specifically how many credit hours were available and with which higher education institutions. Questions were

also asked of the students regarding their continuing education plans after gradation, and to what level they were planning to matriculate. The research questionnaire inquired about the variables that influenced student's to decide to enroll in their program of choice, and what they planned to do after graduation.

The survey was modeled after existing national surveys (Bragg, 2000; Brown 2001) that were used to gather student knowledge of articulation agreements. The survey was reviewed with a panel of classroom teachers and Tech Prep coordinators to establish content validity and ensure the questionnaire was well structured, clear and provided information to help answer the research questions. Content validity in a questionnaire or means the measure, on the surface, appears to elicit the information the researcher intends to elicit (Aronson, Ellsworth, Carlsmith, & Gonzalez, 1990). Thus the content validity of the survey in this study relied on the issue of whether the questions on the survey helped to determine demographic information and degree of impact on decisions to enroll in technical education.

Pilot Test

The student questionnaire was pilot tested for the length of time required to complete on February 3, 2005 with eight programs at Eastern Oklahoma County Technology Center in Choctaw, Oklahoma in the same occupational areas as identified in the study. There were 122 students sampled: 43 T&I, 34 BITE, 27 HOE, and 18 FACS. The results of the pilot test revealed that the approximate amount of time to complete the survey was 20 minutes.

Data Collection

The data for this study were collected in three formats, each containing multiple steps to ensure accuracy, validity, completeness and rich data sets. The first set of data was collected from written student questionnaires. The second set of data was collected from personal interviews of teachers and administrators involved with developing and operating cooperative agreement programs. The third data set was collected from a focus group of policy makers and stake holders from the Oklahoma Higher Education system and the Oklahoma Career and Technology system.

Student Survey

Following the guidelines as approved by the Oklahoma State University Institutional Review Board, after each program was selected, the researcher solicited the administrators' permission to survey the students at their school via the telephone, followed up by mailing an administrators packet for their response and review. The administrator packet contained a cover letter (Appendix A); two copies of the administrators informed consent (Appendix B), one for their records and one to sign and return in the self addressed stamped envelope; along with a copy of the instructors cover letter (Appendix C); instructors informed consent (Appendix D); students cover letter (Appendix E); students informed assent form (Appendix F); and a copy of the students survey questionnaire (Appendix G). Copies of the instructor and student communications were provided for the administrators' records. A self addressed stamped envelope was provided to allow for return of the completed consent form to the researcher. All the administrators' packets were mailed during the first full week of February, 2005.

Once the administrator of each technology center had provided verbal permission to proceed with the student survey, each instructor was then contacted to secure verbal permission to allow their students to participate in the study. After receiving verbal permission, a survey packet was mailed to each instructor. Each survey packet contained a cover letter to the instructor (Appendix C); two copies of the instructor's informed consent form (Appendix D), one to sign and return with the surveys and one to keep for his/her records; 30 cover letters to the students (Appendix E) which had a copy of the students informed assent on the back; and 30 copies of the students assent form (Appendix F) stapled to the student questionnaire (Appendix G). The instructor was supplied a copy of his/her consent form, the student assent form and a copy of the questionnaire for his/her records. A self addressed stamped folder was provided for return of the completed consent, assent and surveys to the researcher. All the program envelopes were mailed during the middle of February, 2005.

The cover letter to the instructors provided basic instructions on how to administer the student questionnaires. The assent form and the student questionnaire were not to be separated at the time of dissemination. The researcher separated the assent form from the survey upon return from each program to ensure that proper assent had been indicated to show a willingness of each student to participate in the study. Forty-four instructor packets were mailed during the middle of February, 2005.

Administrator and Instructor Interviews

Respondents were selected through multiple ways to help ensure a diverse, rich and representative population sample. First, possible participants were provided by the

Associate State Director of Career and Technology Education, along with the Director of Academic Programs for the Oklahoma State Regents for Higher Education as sources who would provide variation and richness to the study. Other possible participants were identified through meetings of Oklahoma Career Technology Program Directors and contacts through networked associates. In an effort to engage in maximum variation sampling so that the sample was "selected in ways that will provide the broadest range of information possible" (Lincoln & Guba, 1985, p. 233). This researcher considered teachers and administrators from urban and rural settings as well as representatives who worked primarily in different occupational focuses. The researcher completed sixteen (16) interviews, and their particular category breakdown was represented in Table 6.

Table 6

Interview Categories

Participants		Total	Setting		Occupational Areas			
			Urban	Rural	T&I	BITE	HOE	FACS
Tech Ctr.	Administrators	4	2	2	2	1	1	
Tech Ctr.	Instructors	4	2	2	1	2	1	
Higher Ed.	Administrators	4	2	2	2	2		
Higher Ed.	Instructors	4	2	2	2	1		1
Total Number		16	8	8	7	6	2	1
Total Percentage		100 %	50 %	50 %	44%	38%	13 %	5 %

The total of 16 interviews provided a perfect 50% split of urban and rural for both the technology centers and the higher education centers. The participants also provided for a stratified percentage of interviews that closely matched the percentages of cooperative agreements of each occupational area: Trade and Industrial (T&I) 44 %, Business and Information Technology Education (BITE) 38 %, Health Occupation Education (HOE) 13 %, and Family and Consumer Sciences (FACS) 5%, as represented in Table 3.

Another variable to substantiate the diversity of the interviews was the notation that four of the higher education interviews (two administrators and two instructors) came from schools that had the largest number of cooperative agreements. Two interviews (one administrator and one teacher) came from schools that were in the middle range in regard to the number of cooperative agreements, and the final two higher education interviews (one administrator and one teacher) were from schools that had a lower count of cooperative agreements.

The technology centers also portrayed diversity in regard to schools with differing quantities of cooperative agreements. Two interviews (one administrator and one teacher) came from schools with a large number of agreements; while four interviews (three administrators and one teacher) came from schools in the middle third in regard to the number of agreements; and the final two interviews (two teachers) came from schools that had a relative low number of agreements.

Interview Questions

Fifteen descriptive and open ended questions were developed based upon previous research questionnaires (Bragg, 2001b; Brown, 2000) that clustered around three primary foci; experience and knowledge; frustrations and challenges; and plans and expectations. All interviews were audio taped, and the interview content was transcribed. The transcribed interview was read through multiple times for phrases indicating possible emergent themes. The data sources were analyzed for emergent themes in order to describe the lived experiences of the administrators and instructors that provided their perspectives. The researcher selected and focused on the emerging themes through each subsequent interview to deepen the theme and broaden the understanding of cooperative agreements.

An interesting experience occurred during the interview component of the research. The eight interviews with individuals that had a large amount of experience working with cooperative agreements and working with administrators from other schools and systems displayed a certain amount of curiosity and probed as to information that others had provided. Caution and tact had to be used by the researcher as so not to divulge the other interview participants nor any perspective gleaned from the other interview subjects.

Focus Group

Participants for a focus group who reviewed the information gathered from the student surveys and the interview components of the study proved the most challenging to convene. Participants were acquired through mutual contacts and input in much the

same manner as interview participants were selected. The challenge was the coordination of multiple calendars and multiple obligations. A total of 46 contacts were made via telephone to solicit participation in the focus group component of the study.

After the initial telephone solicitations a series of group e-mails were sent to arrive at a mutually convenient time for the focus group meeting. After multiple rounds of e-mails April 14th, at 3:00 in the afternoon at the offices of the Oklahoma State Regents for Higher Education, 655 Research Parkway was chosen. The focus group meeting was to be at the conclusion of the Council on Instruction (COI) meeting. The COI meeting adjourned early and the council members left prior to the focus group meeting. Two focus group members attended the meeting, one from each system involved with cooperative agreements. Based on their positions with regard to policy and their expressed interests with each organization the researcher conducted the focus group meeting.

Analysis of Data

Descriptive statistics such as sums, percentages, frequency distributions, and means were used to analyze the quantitative data. Qualitative data analysis included categorization of open ended interview and focus group responses revealing similarities and unique perspectives.

CHAPTER IV

FINDINGS

Introduction

Collection of the data describing cooperative agreements between Oklahoma technology centers and Oklahoma's higher education institutions began by first reviewing the listing of agreements at the 29 area technology centers (Appendix H) and the Oklahoma State Regents for Higher Education (Appendix J). This initial review showed a difference on how cooperative agreements were reported. The data also indicated that both educational systems had agreements with private schools within Oklahoma, and both public and private schools outside of the state. The area technology centers reported 406 additional agreements with 12 out-of-state schools, three Oklahoma private schools and the American Council on Education (ACE). The Oklahoma State Regents for Higher Education also reported two agreements with a technology center in Missouri and one agreement with a private broadcasting school in Oklahoma City.

Variations in the number of cooperative agreements listed were consistent with the demands and different means of accounting of agreements between the two Oklahoma educational systems. Career and Technology Centers counted each individual program agreement, even when programs simply existed on different campuses. Higher education institutions counted multiple campus programs as one agreement. Higher education counts also grouped several individual programs into one occupational

agreement, such as all the Trade and Industrial Education programs for one technology center into one AAS cooperative agreement.

Types of Cooperative Agreements

Analysis suggested that cooperative enrollment programs had evolved into two primary types of agreements with Oklahoma's' technology centers and higher education institutions with a third type beginning to emerge in many of the highly technical occupations present at some technology centers. The first type, developed through efforts of Oklahoma State University technical branch in Okmulgee, was a course by course cooperative agreement. This type of an agreement was used when similar programs existed on both the technology center campus and the higher education institution campus. In a course by course agreement the receiving institution evaluated the curriculum, instruction, instructor credentials and pertinent data, and then granted "advanced standing" to articulated students, following the guidelines as established by the Oklahoma State Regents for Higher Education.

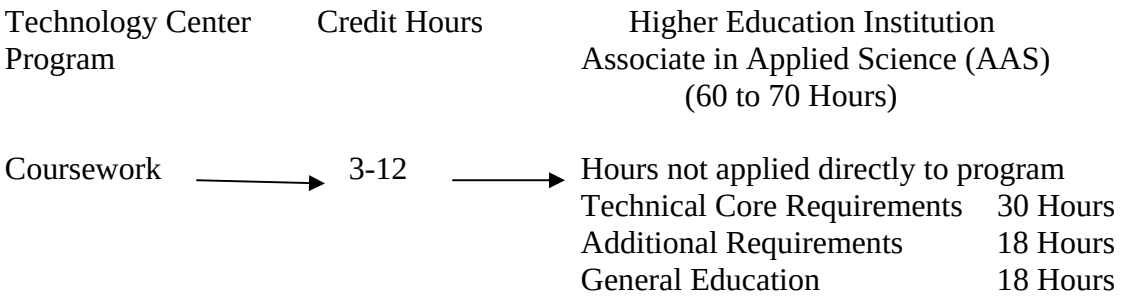

Figure 2: Course by Course Cooperative Agreement Model

A second type of cooperative agreements followed a method developed by Western Oklahoma State College in Altus, for programs that existed only on the

technology center campus. This type of cooperative agreement was often referred to as the "Western model." Occupational programs that were normally associated with this type of an agreement were primarily Trade and Industrial courses such as welding, carpentry or drafting. The receiving institution reviewed the curriculum, materials, instructor credentials and pertinent data to establish sufficient rigor and academic validity to the program being taught at the area technology center. Then the receiving institution developed an Associate of Applied Science (AAS) degree on the higher education institution campus.

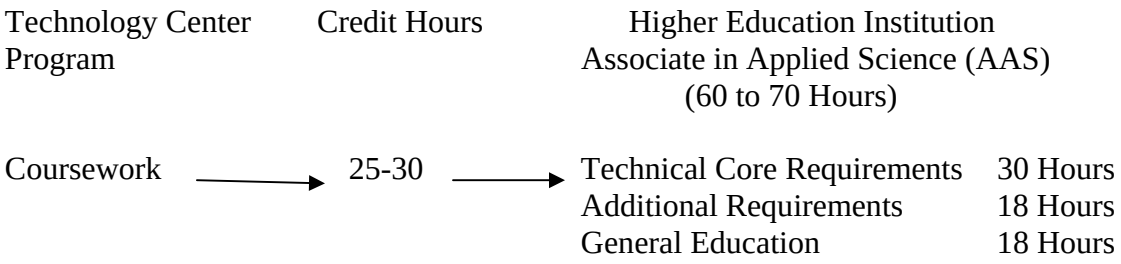

Figure 3: Western Cooperative Agreement Model

An administrator working with Western type program commented that these programs were expensive to operate for a small number of students and required a significant time commitment to gain proficiency. The higher education institution typically granted a blanket 30 college credit hours for work completed at the technology center, and the student would then complete the courses required to earn an AAS degree at the receiving institution. Many higher education institutions, such as Western Oklahoma State College and Murray State College provided much of the general education requirements. These courses were delivered either through a visiting or

adjunct professor on the technology center campus or through distance learning and on-line instructional technology which provided additional course offerings to students.

A third type of cooperative agreement was a hybrid of the two primary models. This newer type was generally found when dealing with emerging high technology occupations, e.g. networking and telecommunications. The programs usually only existed at the technology center campus. The coursework was transcripted with a course by course format following the model developed by OSU- Okmulgee, but also granted up to 30 hours in a AAS degree to be completed at the participating higher education institution much like the Western model. The transcripting of courses, each with a separate course number and letter grade, allowed the student to make choices when he/she attended the higher education campus. The primary justifications for establishing this type of agreement were the high costs associated with emerging technologies and the ability of the technology center to develop and implement new courses for industry needs in a short amount of time.

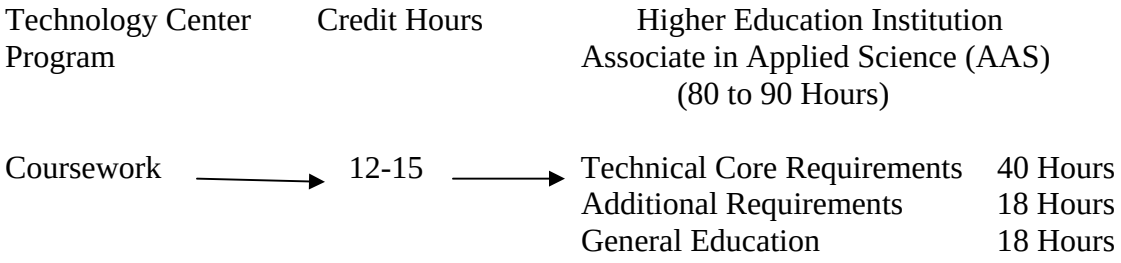

Figure 4: Hybrid Cooperative Agreement Model

In summary, three types of agreements had been developed to provide advanced standing credit to secondary students matriculating from Oklahoma technology centers to higher education institutions. The first type developed granted a low number of hours in

a course by course arrangement. This model was used when the cooperative agreement program existed at the area technology center and a similar program existed on the campus of the higher education institution. The higher education institution would usually grant 12 – 15 credit hours on a course by course basis after a matriculating student completed 12 credit hours on campus. The second type of agreement, usually referred to as the "western" model, granted up to 30 credit hours to matriculating students under an Applied Associate of Science degree (AAS) program. This model was developed when the training program at the area technology center did not exist on the campus of the higher education institution. Examples for this model were primarily Trade and Industrial programs such as carpentry, welding and drafting. A third hybrid type of agreement granted a high number of credit hours like the Western model but transcribed the technology center coursework in a course by course arrangement. This type was used when an advanced technology training program existed at the area technology center and a broader array of courses existed on the campus of the higher education institution. Training programs in electronics, telecommunications and aviation were examples of this type of cooperative enrollment agreement.

Demographic Data on Sampled Cooperative Agreements

The Oklahoma State Regents for Higher Education conducted an annual survey of cooperating higher education institutions with regard to enrollment and graduations of students enrolled through cooperative agreements between Fall 2002 and Spring 2003 (Oklahoma Regents 2005). Of the 26 sampled programs for this study, 21 were listed in

the Regents' data base. One of the sampled programs was listed as "unofficial." One was listed as an agreement with only one (1) three (3) hour course of medical terminology. Two of the sampled programs were not in the Regents' data base. The average age of the 21 agreements in the Regents data base was 8.19 years.

The average number of total program hours necessary for completing an associate degree among the 22 reporting schools was 70 credit hours. The cooperative enrollment programs provided an average of 21 credit hours towards the associate degree comprised of coursework completed at the career and technology centers. Ten (10) of the reporting higher education schools showed the granting of over 25 credit hours towards an AAS based upon career and technology center coursework, which aligned with the "Western" model.

The Regents' data base did not separate the number of enrollments of cooperative enrolled students from independently enrolled students in the reported programs. The following data described the 22 sampled programs in general without consideration of specific enrollments, credit hours generated and graduation rate of students who matriculated via cooperative agreements.

There were 483 "declarations of intent" to identify the students as taking part in the cooperative agreement programs. Of the 483 declarations, one school reported having 297 (61 %), while only showing an enrollment of five (.005 %). The total number of "declarations of intent" was only reported by six of the 22 schools in the Regents, data base. Fifteen (15) of the schools showed no "declarations of intent" while at the same time reporting enrollment data for the fall and spring semesters, awarded college credit hours and numbers of graduates.

The enrollments for the Fall of 2002 was 378 students and 500 for the Spring of 2003. The total number of college credit hours awarded for career and technology center courses was 6,414. Of the 22 programs represented in the Regents' data base, only 15 degrees were reported to have been awarded. Without a list of student social security numbers or other tracking codes there did not exist a consistent or accurate method to track cooperatively enrolled students from the technology centers to the community colleges and ultimately through graduation.

Data existed for 22 of the 26 sampled programs in the Oklahoma Higher Education data base with the average age of agreements of a little over 8 years. The cooperative enrolled programs average 21 credit hours of advanced standing credit awarded. The Regents' data base reported 483 "declarations of intent," 6,414 hours of awarded credit and 15 graduates.

Sample

Twenty-six agreements were selected out of a possible 714 individual agreements as self-reported by the 29 area technology centers. This sample provided an overall sampling percentage of 3.7 percent for the total number of agreements. The twenty-six agreements represented twenty-six specific occupational programs out of a possible 108 different occupational programs as reported by the area technology centers. This number of agreements provided for a 24 percent sampling rate for the overall program sampling population. The twenty-six agreements selected for sampling were aligned to the overall occupational percentages of total cooperative agreements as reported in Table 3. Some of

the selected programs were in a multiple teacher format, either in a first year and second year format, or in duplicate courses to accommodate enrollment.

Response Rate of Student Survey

A written student survey questionnaire that asked students for their knowledge of cooperative agreements was the research method utilized for this portion of the study. The survey data were obtained by requesting student survey completion from 41 occupational and technology education classes. Forty of the 41 instructors (98 %) agreed to sample their students. Of the 40 mailed survey packets, 35 packets were returned, resulting in a total response rate of 87.5 percent. Table 7 provides a listing of the response numbers by individual classes within each occupational area.

Table 7

STUDENT SURVEY RESPONSE RATE OF SAMPLED POPULATION BY CLASSES

	Sample	Response	Percentage
Trade & Industrial	16	16	100 %
Business & Information	18	14	77 %
Health Occupation	4	4	100 %
Family & Consumer Sciences	2	1	50 %
Total Surveyed Classes	40	35	87.5 %

Table 7 shows that Trade and Industrial and Health Occupational classes had a 100 percent response rate. Business and Information Technology occupational area had four programs that did not respond, and Family and Consumer Sciences had one non-responding program. The combined response rate was 87.5 percent. The occupational program response rate and total response numbers with accompanying percentages are listed in Table 8.

Table 8

STUDENT SURVEY RESPONSE RATE OF SAMPLED POPULATION BY PROGRAM

	Sample	Response	Percentage
Trade & Industrial Programs	13	13	100 %
Business & Information Programs	8	7	87.5 %
Health Occupation Programs	4	4	100 %
Family & Consumer Science	1	1	100 %
Total Occupational Programs	26	25	96 %

Table 8 shows that Trade and Industrial, Health Occupational and Family and Consumer Science programs had a 100 percent response rate. The Business and Information Technology occupational area had one program that did not respond. The combined response rate was 96 percent.

The Emergency Medical Services technology program and the Surgical Tech program both had one central coordinator of a multiple section program. Individual

programs were separated into adult and secondary programs as well as day-time and evening formats. These programs were also on different academic schedule calendars. Some programs had just started and were working on classroom activities while others were already immersed in clinical rotations. The researcher made the decision to allow each coordinator to survey the maximum number of students available and count the survey data as a one (1) instructor program. This allowed for a larger sample of individual students while not expanding the number of programs selected and sampled. Table 9 shows the total number of surveys returned and the number and percentage of rejections and those students who declined to participate.

Table 9

STUDENT SURVEYS RESPONSE RATE OF SAMPLED POPULATION BY OCCUPATIONAL AREAS

	Surveys Returned	Sampled Percentage	Useable	%	Rejected	%	Declined	%
T & I	232	46 %	220	95 %	6	2.5 %	6	2.5 %
BITE	205	40 %	194	95 %	9	4 %	2	1 %
HOE	46	9 %	42	92 %	2	4 %	2	4 %
FACS	29	5 %	27	93 %	1	3.5 %	1	3.5 %
Totals	512	100 %	483	94 %	18	3.5 %	11	2.5 %

Table 9 shows that 86 percent of all surveys came from the Trade and Industrial and Business and Information Technology occupational areas. Each of the four occupational areas provided above a 90 percent of useable surveys. The number of students that declined and the rejected surveys comprised six percent of the total number of received student surveys. Surveys were rejected if students did not indicate a willingness to participate by checking the appropriate line on the assent form or by not signing their assent form.

Results of Student Questionnaires

Question one of the student survey established the percentage of male and female students. This method sampling allowed for comparisons within each occupational area. Table 10 presents the number and percentages of frequencies of gender by occupational areas.

Table 10

SAMPLE BY GENDER AND OCCUPATIONAL AREA

Occupational Area	Male	%	Female	%
Trade & Industrial	193	88 %	27	12 %
Business & Information	80	41 %	114	59 %
Health Occupations	12	28 %	30	72 %
Family & Consumer Science	13	48 %	14	52 %
Gender Totals	298	62 %	185	38 %

Nearly two-thirds of the total number of sampled students was male. Family and Consumer Sciences were close to a 50 percent split, while Business and Information Technology and Health Occupation students were predominately female. The Trade and Industrial Education students showed the largest gender concentration of male students both in number and percentages. This large concentration of male students resulted in the total number of students being primarily male.

Questions two and three of the student survey questionnaire provided data with regard to the number and concentration of secondary and postsecondary students in an occupational program. The data was collected in a manner that enabled occupational area comparisons. Table 11 reports the number and percentages of secondary students and post-secondary students in sampled cooperatively enrolled programs.

Table 11

SECONDARY AND POST-SECONDARY STUDENTS IN SAMPLED PROGRAMS

	High School Student's	%	Adult Students	%
Trade & Industrial	157	71 %	63	29 %
Business & Information	81	42 %	113	58 %
Health Occupations	26	62 %	16	38 %
Family & Consumer Science	20	74 %	7	26 %
Total Enrollments	284	59 %	199	41 %

Secondary students combined for a total of 59 percent of the total sample program enrollment. Family and Consumer Sciences and Trade and Industrial Education had nearly three-quarters of the sample enrolled students categorized as secondary students. Post-secondary students combined for a total of 41 percent of the total sample program enrollment. The largest concentration of post-secondary students was in the Business and Information Technology occupational area. T & I, HOE and FACS all showed a minority of post-secondary students.

Question four inquired about the enrollment status of the surveyed students. Students were asked to indicate the length of enrollment in their occupational program. Table 12 presents the numbers and percentages of first year and second year students.

Table 12

FIRST YEAR AND SECOND YEAR STUDENTS IN SAMPLED PROGRAMS

	First Year	%	Second year	%
Trade & Industrial	163	74 %	57	26 %
Business & Office	135	69 %	59	31 %
Health Occupations	38	90 %	4	10 %
Family & Consumer Science	15	55 %	12	45 %
Total Enrollments	351	73 %	132	27 %

Nearly three-quarters of all the sampled students were in the first year of their training programs. Each occupational area reflected the large majority of first year students with Health Occupational students showing the largest concentration. Family and Consumer Science students provided the closest percentage split of a balanced program of first year and second year students.

Question five was a three part question used to determine the knowledge base students possessed with regard to their cooperatively enrolled program. The primary question established the general knowledge level, while the follow up questions 5a and 5b established the specific knowledge level of the students. Table 13 presents the number and percentages of student responses regarding awareness of college credit.

Table 13

SAMPLED STUDENTS KNOWLEDGE OF AVAILABLE COLLEGE CREDIT

	Yes	%	No	%	Don't know	%
Trade & Industrial	186	84 %	3	3 %	28	13 %
Business & Information	173	89 %	3	2 %	18	9 %
Health Occupations	36	86 %	2	5 %	4	9 %
Family & Consumer Science	26	96 %	0		1	4 %
Sampled totals	421	88 %	8	2 %	51	10 %

The vast majority of all the surveyed technology center students correctly knew that their program did offer college credit through a cooperative agreement. Less than 15 percent of the sampled students' answered they did not know or their program did not offer an avenue for attaining college credit hours.

The second part of question five provided further demonstration of the sampled student's knowledge base by inquiring about the number of credit hours available. Students were asked to list the number of credit hours available. Student responses are reported in Table 14.

Table 14

SAMPLED STUDENTS KNOWLEDGE OF AVAILABLE COLLEGE CREDIT HOURS

Occupational Areas	Right	%	Wrong	%	Don't know	%
Trade & Industrial	75	34 %	36	16 %	109	50 %
Business & Office	38	20 %	61	31 %	95	49 %
Health Occupations	1	2 %	26	62 %	15	36 %
Family & Consumer Science	0		18	67 %	9	33 %
Totals	114	24 %	141	29 %	228	47 %

When combining the number and percentages of students who responded incorrectly or responded that they "did not know", the results of the student survey demonstrated that the majority of the students (76 %) were not accurate in reporting the correct number of available college credit hours. The largest concentration of student

responses for Trade and Industrial and Business and Information Technology students was in the "did not know" category. Both occupational areas reported a nearly 50 percent response rate in that category. The Health Occupation students' largest concentration of responses was in the "wrong" category. The majority of the Family and Consumer Science students were consistent with reporting the same number of 12 college credit hours available. However, the listed quantity by the technology center and the Oklahoma State Regents was 14 hours, so all their responses were in the "wrong" category.

The third component of question five was to determine if the students were able to identify the cooperating higher education institution(s). Student responses are outlined in Table 15.

Table 15

SAMPLED STUDENTS KNOWLEDGE OF COOPERATING HIGHER EDUCATION INSTITUTION

	Right	%	Wrong	%	Don't Know	%	Partial	%
Trade & Industrial	75	33 %	33	14 %	87	38 %	34	15 %
Business & Information	44	23 %	21	11 %	55	28 %	74	38 %
Health Occupations	9	21 %	5	12 %	11	26 %	17	41 %
Family & Consumer Science	17	63 %	3	11 %	7	26 %	0	
	145	29 %	62	13 %	160	33 %	125	25 %

When combining the number of sampled students who incorrectly reported the cooperating partner school with the number of sampled students indicating they "did not know", the survey indicated that 46 percent of technology center students could not

identify the higher education institution that participated. The survey percentages were closely aligned between the number of students that could correctly identify and those that were partially correct in identifying their cooperating higher education institution and the number of students that were wrong or did not know their cooperating higher education institution. One variable among the agreements was that nearly 50 percent involved multiple schools as cooperating higher education institutions. The students enrolled in programs that had multiple cooperating institutions indicated one of their cooperating schools without indicating the second or third cooperating higher education institution. The combined total of wrong, "did not know", and students demonstrating partial knowledge was over 70 percent.

Question six asked the students to respond to a Likert type rating scale that indicated their intentions with regard to working in the career field of their training program after graduation. Table 16 provides the reported data of students' intentions to work in the career field of their program after graduation.

Table 16

SAMPLED STUDENTS' INTENTIONS TO WORK IN CAREER FIELD OF STUDY

	No	%	Not sure	%	Maybe	%	Probably	%	Yes	%
T & I	5	3 %	18	8 %	50	23 %	51	23 %	95	43 %
BITE	15	8 %	22	11 %	42	22 %	33	17 %	82	42 %
HOE	1	2.5 %	0		1	2.5 %	2	5 %	38	90 %
FACS	1	4 %	3	11 %	3	11 %	5	18 %	15	56 %
Totals	22	4 %	43	9 %	96	20 %	91	19 %	230	48 %

The most frequent response for students in each occupational area was the “yes” category to indicate their post-graduation employment plans. The total overall percentage of 48 percent indicated that most of the technology center students planned to work in their respective occupations after graduation. The largest concentration of “yes” students was in the Health Occupations programs (90 %).

To quantify the preference response, a rating scale was used to indicate strength of preference, the student responses were calculated using a point weighted system. A “yes” response received four points, “probably” received three points, “maybe” received two points, “not sure” received one point, and a “no” response received zero points. The point totals for each category were summed and then a mean was calculated for the overall strength of response.

An overall mean was 3.33 which indicated a positive response between “probably” and “yes” categories. The mean for Health Occupation students was 3.80; the mean for Family and Consumer Science students was 3.11; the mean for Trade and Industrial students was 2.97; the mean for Business and Information Technology students was 2.74.

The mean for the Health Occupation students was the highest in comparison to the other occupational areas, indicating a strong intention to work in their occupational area. This result aligns with the strong 90 percent response rate of “yes” to question six. Each of the other occupational areas were close to a mean rating of “3” that indicates a positive probable intent to pursue their occupational work selection.

Question seven requested that students indicate their post-graduation plans with regard to continuing their education. Students responded using a Likert type scale to rate

the probability that they would continue their education after graduation. Table 17 presents the data from question seven.

Table 17

SAMPLED STUDENTS INTENTIONS TO CONTINUE EDUCATION

	No	%	Not sure	%	Maybe	%	Probably	%	Yes	%
T & I	5	2 %	20	9 %	39	18 %	41	19 %	113	52 %
BITE	6	3 %	16	8 %	34	18 %	34	18 %	102	53 %
HOE	0		1	3 %	4	10 %	6	14 %	30	73 %
FACS	2	7 %	0		3	11 %	4	16 %	18	66 %
Totals	13	3 %	37	8 %	80	17 %	85	18 %	263	54 %

Each occupational area indicated at least a 50 percent or stronger rating in the "yes" category of responses, with Health Occupations students reporting a high of 73 percent. When combining the "probably" and "yes" ratings overall 72 percent of students marked these choices. Individually, Trade and Industrial Education, Business and Information Technology Education and Family and Consumer Sciences all reached a 71 percent positive response for continuing education. The overall rating indicating continuing education remained consistent for each occupational area.

Using a rating scale to indicate strength of preference, the student responses were calculated using a weighted rating system. A "yes" response received four points, "probably" received three points, "maybe" received two points, "not sure" received one

point, and a “no” response received zero points. The point totals for each category were summed and then a mean was calculated for the overall strength of response.

An overall mean was 3.15 which indicate an average response between “probably” and “yes to continue education after graduation. The strength of choice was calculated for each occupational area. The mean for Health Occupation students was 3.58; the mean for Family and Consumer Science students was 3.33; the mean for Business and Information Technology students was 3.09; the mean for Trade and Industrial students was 2.58.

The mean for Health occupation students indicated the most positive response with regard to continuing education after graduation, although this was slightly lower than their post-graduation plans in regard to working in their career field. Family and Consumer Science students and Business and Information Technology students both showed a strong probability of continuing their education, and both of their means were slightly higher than their means for working in their occupational area. Trade and Industrial Education students had the lowest mean with regard to continuing their education upon graduation (2.58), which was lower than their rating of working in their occupational area. The findings indicate that only students in the Trade and Industrial education program responded on the average between “maybe” and “probably” as compared to the other three occupational areas whose means were above “probably.”

Question seven was continued and students were asked to indicate their continuing education preference between two-year colleges, four-year universities, technical schools, continuing in their current class or another type of training such as the military. Student responses are presented in Table 18.

Table 18

SAMPLED STUDENTS INTENTED LEVEL OF POST-SECONDARY EDUCATION

	2 year College	%	4 year University	%	Technical School	%	Current Class	%	Other	%
T & I	70	34 %	77	37 %	34	16 %	17	8 %	9	5 %
BITE	62	31 %	77	39 %	43	22 %	10	5 %	5	3 %
HOE	21	52 %	9	22 %	3	8 %	2	5 %	5	13 %
FACS	11	39 %	7	25 %	6	22 %	1	4 %	3	10 %
Totals	164	35 %	170	36 %	86	18 %	30	6 %	22	5 %

The student responses were nearly evenly split between attending a two-year college and a four-year university with 35 and 36 percent respectively. The highest percentage (52%) for attending a 2-year college was reported by Health Occupation students. Interestingly 13 percent of these students planned to attend another type of school not listed. The four of the occupational areas combined reported above a 70 percent response rate for attending a two-year or four-year institution. Trade and Industrial Education along with Business and Information Technology students showed a slightly higher response rate for attending a four-year university. Trade and Industrial Education students showed a response rate for attending a higher education institution comparable to the other occupational areas. However it should be noted that Trade and Industrial Education students had the lowest mean score when measuring their intention to attend higher education after graduation.

Question eight sought the students' input regarding variables that influenced their decision to enroll in their current training program. Table 19 presents the data regarding why students chose to enroll in their career and technology center program.

Table 19

SAMPLED STUDENTS VARIABLES INFLUENCING ENROLLMENT IN TECHNOLOGY CENTER PROGRAM

	T & I	%	BITE	%	HOE	%	FACS	%	TOTAL	%
Career/ Education goals	138	25 %	117	26 %	30	30 %	13	29 %	298	27 %
To help get a job	135	25 %	102	23 %	15	22 %	12	27 %	264	24 %
College Credit	48	9 %	47	11 %	5	7 %	2	4 %	102	10 %
Friends	51	9 %	36	8 %	5	7 %	4	9 %	96	8 %
Parent advice	47	9 %	28	6 %	5	7 %	4	9 %	84	8 %
Tour of class	42	8 %	24	5 %	2	3 %	4	9 %	72	7 %
Teacher advice	29	5 %	25	6 %	2	3 %	3	7 %	59	5 %
Counselor advice	23	4 %	35	8 %	0		0		58	5 %
Easy Credit	19	3 %	16	4 %	1	1 %	1	2 %	37	3 %
Employer	10	2 %	5	1 %	4	6 %	0		19	2 %
Advertisement	4	.7 %	4	1 %	0		0		8	1 %
Co-worker	3	.5 %	1	0 %	0		2	4 %	6	.5 %

In each occupational area the most frequent responses reflected the students' career and education goals, closely followed by the program's ability to help students get

a job upon completion. The next clustering of variables was the availability of college credit and the influence of friends and parents. The total percentages reflected by the combined scores remained consistent across each occupational area. However, in the case of Family and Consumer Sciences, the variable of college credit was reported to have less of an influence than friends, parent advice, tour of the class and teacher advice. Generally, the variable of available college credit ranked third for the total sample regarding influential variables for enrollment. The variables of "career/education goals" and "to help get a job" appeared influential for nearly half of the sample. The availability of college credit was reported to be influential by only ten percent of the sample.

Question nine sought the students' opinions regarding their plans after graduation. Table 20 provides the number and percentages of student responses.

Table 20

SAMPLED STUDENTS CHOICES OF POST-GRADUATION PLANS

	T & I		BITE		HOE		FACS		TOTAL	
	Number	%	Number	%	Number	%	Number	%	Number	%
Continue education	136	35 %	130	37 %	27	39 %	19	40 %	312	37 %
Seek employment	135	35 %	103	30 %	25	36 %	13	28%	276	32 %
Look for a new job	62	16 %	70	20 %	8	11 %	9	19 %	149	18 %
Continue current employment	22	6 %	28	8 %	8	11 %	5	11 %	63	7 %
Join military	22	6 %	6	2 %	2	3 %	1	2 %	31	3.6 %
Other	5	1.5 %	11	3 %	0		0		16	2 %
Not enter work force	2	.5 %	1	.2 %	0		0		3	.3 %

The largest concentration of responses for students as a total was to continue their education. This response held consistent within each occupational area. In each occupational area the most frequent responses reflected the students' choices of continuing education and seeking employment after graduation. Trade and Industrial students were evenly split when rating continuing education or seeking employment. Family and Consumer Science students and Business and Information Technology students had the widest variance of students responding between continuing education and seeking employment. The total percentages reflected by the combined scores remained consistent across each occupational area. Combining continuing education and

seeking employment choices, accounted for over two-thirds of the responses of the entire sample.

Research Question One

What are the current demographics of cooperative agreement programs in the state of Oklahoma?

The current demographics of cooperative agreement programs in Oklahoma showed an over-all system-wide acceptance and implementation of cooperatively enrolled programs. There were agreements present in all 29 career and technology centers (100 %) and on all 51 of the separate campuses (100 %). Higher education institutions had 12 schools participating directly at the two-year community college level, four participating at the regional university level and both technical branches of Oklahoma State University in Okmulgee and Oklahoma City with agreements, for a total of 18 higher education institutions.

According to the Oklahoma State Regents for Higher Education (2005), there were 351 cooperative agreements between career and technology and higher education institutions (2005). The number of reported agreements was up from 338 in 2000 which was up from 263 in 1998. The number of cooperating higher education institutions had increased from 15 in 1998 to 18 in 2005, and the credit hours generated by the agreements had nearly doubled from 12,563 in 1998 to 24,551 in 2000.

The growth of agreements, participating schools, and hours generated had increased steadily since cooperative agreements began in Oklahoma. Recently, more and more focus had been on increasing the number of graduates from cooperatively enrolled

programs. According to the Regents for Higher Education (2005), there were 2, 497 students enrolled in the fall of 1999 and 2,744 students in the spring of 2000 with the total number of graduates being reported as 103 (2 %).

According to the survey questionnaire of the study, the current demographics of cooperatively enrolled students were:

- 62 percent of the students enrolled in cooperative programs were male;
- 38 percent of the students were female;
- 59 percent of the total enrollments were secondary students;
- 41 percent of the total enrollments were postsecondary students;
- 73 percent of the enrollments were first year students;
- 27 percent of the student enrollments were second year students;
- 88 percent of students indicated they knew their program provided college credit ;
- 24 percent correctly indicated the number of credit hours available;
- 67 percent either responded incorrectly or did not know the number of credit hours available;
- 29 percent correctly identified the cooperating higher education institution;
- 46 percent of students were either wrong or did not know or incorrectly reported the cooperating higher education institution; and
- 25 percent of the students did report at least one school but failed to report accurately all the partnering higher education institutions.

Sampled students' mean rating was a positive 3.33 on a 4-point scale when asked if they would work in the career field of their occupational training. When asked about their plans to attend higher education, the sampled students' mean rating was a positive 3.15. All the occupational areas were individually clustered around the "probably" (3) rating on both questions. This served as an indicator that career and technology education held equal possibilities with students to go directly into an occupation or continue their education. The responses were evenly split as students indicated a 35 percent probability that they would continue their education at a two-year college while 36 percent indicated they would continue their education at a four-year university.

Research Question Two

To what degree have articulated programs affected current student decisions to enroll in secondary career tech programs?

Student survey question number eight provides the most definitive answer to discover the variables that had the most influence regarding students' decisions to enroll in cooperative secondary career and technology education programs. The two largest impacts on the student's decision to enroll in career and technology center programs were the alignment of the program with the students "career and education goals" (298 or 27 %) and "to help get a job" (264 or 24 %).

A total of 102 students (10%) indicated that available college credit influenced their decision to enroll in the career and technology education program. This rate of response within this data was not much higher than the influence of friends, 96 (8 %), parent advice, 84 (8 %) or a tour of the class, 72 (7 %). The influence of college credit,

friends, parents or tour was not greatly elevated from the categories of counselor advice, 58 (5 %), teacher advice, 59 (5 %), or those that enrolled in the program because it was considered easy credit, 37 (3 %).

Administrator and Instructors Interviews

This research study included an effort to develop an understanding of the perceptions of administrators and instructors who initiated and operated cooperative enrollment agreements between area technology centers and higher education institutions in Oklahoma. The main component of formal articulated agreements involved the cooperation of the two educational systems through personnel at each technology center and their cooperating higher education institution.

The background and experience of the interview subjects was demonstrated by a mean number of years in the field of 18.33, ranging from eight (8) years to thirty-five (35) years. The mean years of teaching experience was 15.23 and the mean years of administration experience was 16.83 years. The educational level of the interview subjects was six (38 %) holding bachelors' degrees, five (31 %) holding masters' degrees and five (31 %) holding doctorate degrees. The interview subjects divided evenly in regard to their urban and rural school location as well as distributing evenly on factors such as school size, number of agreements, enrollment in cooperative agreements, and number of graduates. Representation of each occupational program area was nearly identical to the representative number of occupational program agreements and the student sampling percentages. (See Table 3)

Emergent Interview Themes

Sixteen (16) interviews were conducted with administrators and instructors from career and technology education centers and postsecondary higher education institutions. There were a total of eight (8) administrator interviews, four (4) from career and technology centers and four (4) from higher education institutions. There were a total of eight (8) interviews with teachers, four (4) from career and technology centers and four (4) from higher education institutions. (See Table 6). Theme analysis was done through multiple readings of the interview data. In order to isolate recurring themes, the researcher used selective highlighting (Van Manen, 1990) of the transcripts and then recorded dominant themes in the margins of the transcriptions. As the process continued to include the data of all the participants, similarities emerged. The similarities developed into themes, and the researcher compared and contrasted the themes between the urban and rural, large and small, higher education and career and technical center administrators and teachers for triangulation purposes. The major themes that developed from the interviews were grouped around (1) the purpose of cooperative agreements, (2) the process to develop and implement agreements, and (3) the necessary components to maintain and expand existing agreements.

Purpose

Cooperative enrollment, articulated programs or advanced standing had been present in higher education long before technology centers and higher education institutions established formal agreements. The purpose of cooperative agreements as identified by the Oklahoma Regents for Higher Education was to “expand student access

to education" and to "share technology center and higher education resources" (Oklahoma Regents, 2001). Many of the interviewed subjects saw a natural "fit" with the joining of the two educational systems into a unified whole. Administrator Kristen said, "It just makes so much sense, you start them out at a tech center, polish them up at a community college and expand their horizons." "It's all about letting each student pick their own future," was the way Teacher Bob phrased the joining of the two systems. Several of the respondents felt strongly that the existence of the cooperative agreements simply "opened other doors" for the students that attended the tech centers. Teacher John remarked, "Many of my students that have gone on to NOC, that would not have even considered going on to college, but it was right there, hooked up, and they went on."

The majority of the subjects focused on the purpose of the cooperative agreements as being centered on expanding the choices and opportunities for students. To a very limited extent they would mention their own school's mission to prepare for more education or future learning, but as a whole they stayed centered on the purposes of cooperative agreements.

There was one interview that began by discussing the differences of the two systems, in regard to their vision and mission. Administrator Debbie stated, "I think that there has always been a difference in what the community college mission and what the faculty felt like the college mission was and the mission of the vocational schools." She went on to discuss the differences of the two schools and why her school had decided to not develop any cooperative enrollment agreements with their surrounding technology centers if the programs were present at the higher education institution.

> I think it was that time, around that time, it was when Ann Benson was the director, I saw a copy of the mission statement for career tech, and it

> basically said we're going to be all things to all people, and that's just not, that's not a mission. In other words it doesn't matter what everybody else is doing, we're gonna do it. And that just really wasn't feasible and I think that's where a lot of the conflict came from.

Administrator Debbie came from a school that was in the upper tier of community colleges in relation to the number of cooperative agreements, but in the lowest tier in regard to the number of graduates. She reported during the interview that they had never had any graduates. "We have articulated 46 different programs. We do not have one graduate!! They get the credit and then they don't follow through…" When checking reports generated by the Oklahoma Regents, Administrator Debbie's school self-reported 28 agreements and 9 graduates during the 1999-2000 school year. Administrator Debbie was one of the first administrators at the community college to become involved and began to develop cooperative agreements with the surrounding technology centers. She was very proud of the number of agreements they had developed. Her school had developed a large number of agreements but primarily in the occupational areas where there was not any tradition of the tech center students going on to college. Administrator Debbie said:

> I believe, we're articulating a lot of the applied programs; carpentry, and all of those, and evidently there is not a need for students to have a degree, in those, 2 year associate, they just don't need a degree to be successful in that field. They're making money without it, and so they don't see a need, there's no motivation to go to college…. Which is not good, and it's not good for the colleges.
>
> We put together some agreements that operationally they just weren't very successful. I think probably one of the reasons that they weren't very successful was they were course by course. Those courses weren't really embedded in a program. So it wasn't really a pathway at all, particularly on the business ones, which were the ones I was most familiar with. And so there was no real drive behind them, there was no real motivation for students to really do them.

Other interview subjects did not speak of the differences of the mission of the schools or the different systems, but they mentioned the operational differences present in each institution. Teacher Andy stated "We never really talk about the mission or stuff, just what lines up, what is the same, what repeats and how their students (tech center) could fit into our program." The interview subjects were in agreement that the missions of each school did not even really need to be addressed. Teacher Andy also said "…if a student wants to get more education, we should just make that happen. It really doesn't matter exactly where it takes place, as long as it is quality."

Teacher Susan stated, "Personally, but I don't know. To be honest with you I really don't know if the vision created by the new state director, addressed the mission or not. I just don't know. What really matters is that the teachers and administrators from each school are willing to work together, bottom line, that's the key."

The majority of all the interview participants indicated a consensus that the purpose of expanding educational opportunities was widely accepted among technology centers and higher education institutions. The interview participants demonstrated a deep understanding of cooperative agreements and the benefits that students received. The groups of administrators and instructors at both the technology centers and higher education institutions were generally united that the purpose of cooperative agreements was primarily to benefit the students.

Process to Develop and Implement Agreements

A common theme brought forward by the administrators and the instructors from each system was a reference to the process. The comments of both groups could be

grouped more by their roles in the process rather than their affiliation to a particular system. Concern for the elements of trust and confidence in each other to be fair and to ensure that no one system was somehow gaining the upper hand was always present. The feeling of mistrust and caution was more pervasive in the administrative perceptions than in the instructors. Administrator Phillip said, "There was no trust built between the system of higher education and occupational education because we had just never been in that kind of relationship." Administrator Samantha commented, "Another big part is that they don't understand what we do and we don't understand what they do."

Development of the first cooperative agreements was done after many hours of negotiations, revisions, reviews, and approvals about every last detail of every agreement. Administrator Jose clearly identified that "In the beginning each cooperative agreement was developed on a school by school basis, but once you got over the first agreement or two, and the colleges could tell that the technology center courses were worthy of credit, well then it got to be a lot more of a process than a challenge." The time frames of the initial agreements were long and cumbersome between the administrators of each institution. Some of the first agreements involved the instructors' right up front after a couple of initial meetings. Administrator Susan said, "This proved to be a mistake, because teachers would get bored with the endless negotiations and delays."

The instructors felt like their role was to organize their curriculum and then compare it to the other schools' curriculum and then to make changes to make a match. "We talk more about programs, and community colleges talk more about courses" was how teacher Vickie saw it. In the development of the original agreements, this reorganizing to provide for easier comparisons was done as a group project. As the

process began to develop a more systematic approach, the process of breaking down technology center programs into courses that matched closer to the format of community colleges was done prior to the joint meetings. Administrator Debbie stated, "When instructors would get in a room and faculty from colleges were saying we teach this and this and this, and you don't teach that… the vo-tech faculty would say, "but we can" and then it would seem like they invented content to match our programs. One or two strong personalities can drive a committee, and change the whole process from a failure to a success or vise-versa." Administrator Dana commented:

> We had some problems especially in the computer area. Our 2 people, they're now computer information technology faculty; just basically dug their heels in, and said we're not going to articulate. So that's where we stand at this point. There were a lot of hard feelings. As a matter of fact there were a lot of hard feelings on both sides. I think that at that time, they tried to force it down the faculty's throat. And that just doesn't work, on college campuses, it just flat doesn't work. What it really boiled down to after all the work, was the personalities of the department heads and the faculty on the two campuses. If they agreed to accept each others curriculum then it'll work.

Some of the mistrust always seemed to linger and even grow as each subsequent cooperative agreement was developed. Administrators and instructors from both systems did see this alignment of programs and expansion of cooperative agreements as a political maneuver to make both sides more and more alike. Several of the interview subjects joked about how those thoughts had run through their own minds at different times, but as they had gained more and more experience, that did not seem like a valid fear. Teacher Mario felt like, "Sure, some tech centers felt like the community colleges were going to take them over, but the community colleges also felt like the tech centers were going to take them over as well. Fact is neither one really wants the other one, at all."

As the process overcame the initial concerns of trust and cooperation, the process for developing cooperative agreements became more and more predictable. A State Regents' policy was always present, but in the early stages many of the details were in the interpretation by the schools involved with each agreement. Administrator Phillip stated, "Now if you have the right people at the local career tech and college, it's just a matter of somebody punching the paperwork in." Partnerships began to develop or deteriorate depending on the experiences of both sets of administrators and faculties. Administrator Jose stated, "We have several agreements with (Chilote) State which is 60 miles from here, but no agreements with (Buick) University, which is only 3 miles. It just never got off the ground with (Buick)."

After trust and cooperation increased and the process became more systematic between schools, the number of cooperative agreements increased. Schools began to develop better working relationships, but many of the agreements were made without a great deal of foresight to see if there was a need. Administrator Debbie felt like, "The bottom line is we've got all these great agreements and no kids are going through them! The schools actually just started to make agreements because they were good at the process." Several of the occupational instructors felt like their programs were not ever going to have many students take advantage of the agreements, but there was a big rush to get an agreement. Instructors identified this pressure as originating from the administration, whereas the administration had perceptions that it was from politicians who were influenced by the career and technology system. Administrator Debbie stated, "At every meeting we would look at this and think it wasn't something we wanted to do,

but I sure felt the pressure by the Dean and Academic Provost that we would have some agreements, whether we wanted to or not."

Although the majority of the administration interview subjects acknowledged the presence of a political pressure, they still felt independent in being able to make individual agreements. Administrator Dustin stated, "If we have one kid that goes through our carpentry program that decides to go on to school, then the agreement is worth it. It's our jobs to make additional education available to all the students, not just the ones that are most likely to take advantage of a cooperative agreement."

All the interview participants identified that until the initial issues of trust and understanding of each were overcome the two institutions could not fully implement cooperative enrollment agreements. Most of the interview participants did not fully understand the purposes of the agreements when they got started, and some felt like they were just the "flavor of the month" during the initial agreements. Teacher Susan stated, "They just didn't have any real benefits to me. It wasn't until two years later when I had a student that the agreement just worked for, that I began to get more involved and get more kids going that way."

Annual Reviews

An annual review was one of the Regents requirements for each cooperative agreement and recently the review was to include a performance measurement. However, Administrator Jose stated "There is not a statewide process to ensure that our review meetings happen at all." After several interviews with instructors from both systems it became apparent that the annual review may be a requirement but not a reality.

The instructors from either system could not recall ever being to a review meeting. Teacher John stated, “Those must be done over at the administration building.” In fact, three (3) of the four (4) tech center instructors and all four (4) of the higher education instructors could not recall being at the review meetings for cooperative agreements. Teacher Kasey stated, “We would see where the agreements had passed the faculty council and been approved by the Regents, and that they were a part of them, but I couldn’t remember being involved in a face to face meeting with the guys from the technology center.” Most of the technology center teachers and none of the higher education teachers knew the names of the teachers at the other cooperating school.

Maintain and Expand Agreements

When asked about the future of cooperative agreements, nearly every interview subject felt strongly that the process should continue to grow and expand. Administrator Dana stated, “Oh absolutely, I see the agreements with (Southern Community College) just getting stronger and stronger as more and more students go through.” The instructors’ perceptions were that the agreements were getting stronger as more teachers and students began to understand and use them. Teacher Sandra stated, “To be honest, when I was teaching at (Comanche Tech), I really didn’t understand them, so I didn’t promote them. Now that I’m here at (State Tech), I can see all the benefit to the students, and I wish I had pushed them harder. The technology center students are just such better students at the community college level.” The perceptions of the higher education instructors and administrators were that the technology center students already knew what they were getting into, and that they were more focused on finishing the program.

The higher education teachers felt like the technology center students did not show an above average ability to excel in the technical program or the academic component of higher education. They just worked harder because they knew the information seemed to hold a great deal of relevance for them.

Administrator Jose stated, “Some of the biggest success of cooperative agreements is in building relationships between community colleges and tech centers. I think that’s one area which they have really broken down some barriers; some misconceptions on both sides, I think that’s been a winner. So from that perspective I think it’s a success to really make higher education more accessible to students.”

All the administrators and teachers felt like before expanding with new agreements they would like to see more emphasis on getting information out to students and get more students taking the step to the next level of education. Teacher John stated, “We’ve got all these agreements, we made contact, now lets get kids into ‘em.” Each administrator at the four (4) technology centers had an operational plan to disseminate information out to counselors and students. The urban schools had a more refined, step-by-step procedural process due to their large enrollments. This more intricate process allowed for greater assurance that information was actually getting into the hands of students. The maintenance and expansion of cooperative agreements was viewed by the interview participants as essentially the same process. The general consensus was that there were plenty of agreements, the focus now needed to be on getting more parents, counselors and teachers involved with helping students.

Research Question Three

What do teachers and administrators perceive as the challenges of developing articulated programs at the secondary and post secondary levels?

During the course of the interviews there were some tangible barriers that several of the interview subjects expressed as needing attention. These variables included: 1) transferability of students from one technology center to another and the subsequent connection to the partnering college; 2) expansion of distance learning usage; 3) duplication of certificate programs; 4) tracking of students going from career technology to higher education; and 5) tracking of graduation with an AAS degree.

Transferability for students was seen as a major growth area for future cooperative agreements. Administrator Susan said, "I'd like to see students from western Oklahoma have the opportunity to go to school in Tulsa, if their circumstances call for a move." The ability to transfer during a semester was only available now to high schools students within their high school program and only for secondary education credit. If a student moved from one place to another during the school year every effort was made to place them into a similar program at the new technology center. Administrator Jose stated, "That is just not done at the community college level, and if the student moves all the cooperative credit they have earned is gone. I would like to see that college credit that the student has earned; follow them from one school to another."

Expansion of distance learning technology was seen as an essential element to furthering cooperative agreements. Teacher Bob stated, "The community college is broadcasting the 12 hours of gen-ed courses right to us here. Our students can complete most of the requirements and never step foot on their campus." By building more and

more contact with each school and providing a bigger presence of higher education on technology centers campuses, distance learning contact was becoming more and more essential. Some of the biggest barriers for distance learning of general education course work were in the areas of scheduling and student perceptions. Administrator Samantha stated, "First just to get the time right was a major accomplishment. Our classes run from 8:20 till 3:30, if they broadcast during those hours, we've got to pull students out of class, if they broadcast at night, we've got to get our kids to come up here. Then there is the daily schedule. Higher ed. and public ed. are on different schedules. There were about 5 days last semester that we were out or they were out, that was problematic at times."

"First, these kids are only used to working on stuff during class. We learned quickly that we had to allow for using our class time, like on Tuesdays and Thursdays so they could do their homework," was a statement by Teacher Bob. The adult students who enrolled in distance learning general education classes had to be shown how to study, prepare for and complete classroom assignments. Teacher Bob stated, "At first they would just watch the TV like it was going to teach them something. They seemed disconnected, this was all new to them, a few dropped out, just didn't like it. We brought the teacher here a couple of times, worked with them on how to do the assignments, and then it seemed to catch on."

Another of the barriers holding cooperative agreements back from being fully implemented was the fact that technology centers validated skills through a certificate program and some community colleges still offered certificate programs. Administrator Samantha stated, "Where those overlapping programs exist there will always be a sense of competition. If technology centers could teach up to a certain point in many of the

occupations and then pass them off to the higher education institution; that would be an ideal seamless system. The problem with that scenario is that the technology continues to change and expand. Ten years ago the technology centers had several electronics programs, now they have changed and expanded into telecommunications, which was non-existent 10 years ago. So there is a certain amount of competition even when it comes to "hot" new programs. Everyone wants to be teaching the new things." Administrator Jose stated, "Because we don't want to get into a situation where we're duplicating; it keeps the competition down. I think that's one reason that we've been a player. We don't have the duplicate faculty and the competition because we work with programs that we don't have on campus."

The biggest obstacle to truly gauging the effectiveness of cooperative agreements in a quantifiable way was that there was a lack of a tracking system. Administrator Dana stated, "Right now there is no real method that we can use statewide." Several of the technology centers had developed an internal model to show which students intended to go on to higher education, but there was just a lack of follow through when trying to identify graduates of the technology center, enrollments at the community college level or graduation with an AAS. Many of the students provided feedback to their technology center instructor by self-reporting enrollment or graduation, but there were no report that identified the matriculation generated by the higher education institution or career technology system. Teacher John said, "Sure I think a lot of my students are going to go on to (Cherokee State), but there is no way to check to see if they really do or not. Sometimes they actually check in with me later, or when I do my follow-up in March, but

that's after two semesters. Usually if they don't go right when they get out, they'll never go."

Research Question Four

What do teachers and administrators perceive as necessary for an ideal agreement to expand access to educational services?

Interview subjects were quick to respond that an advocate for cooperatively enrolled programs was necessary at every school to make the program successful. Administrator Jose exclaimed:

> You have to have a champion! Yeah, yeah, if you don't have a champion, you don't have a program. The bottom line in vocational program student services program, whatever, if you don't have a champion for that program, it can't survive over time. Because it takes time to build the relationships to work with the kids one-to-one. There are a lot of these students, they may be first time from their family to go to college, and they may not have the support they need at home. They may not understand, may be terrified you know, they just need some hand holding, to transition from one system to another.

Generally all the administrators and instructors believed that the most important component to making successful cooperative agreement programs was someone on each campus to be a contact, a "go to guy," a "clutch player," a "champion." Teacher Mario stated, "There has got to be someone over there that the students feel like will help them out, with all the steps and things. These kids kind of get lost when they go over to (Western), there has to be someone there they know." A one-on-one contact point for students was seen by both systems as necessary for students to make the transition from the technology centers to the higher education institutions. The contact person on the technology centers campus to explain agreements and push paperwork was identified as

fulfilling the "champion" role for students as they entered the process. Administrator Dustin explained, "We have got to have someone on our campus, available all the time, to help kids become their own advocates. If we don't start them out knowing that they've accumulated credit and this is a serious program, they just won't take advantage of it. It's complicated, it gets hung-up from time to time, you have to have someone right here that kids can call and help them work out the details."

A cooperative partner was also quickly identified as being necessary to having successful cooperative agreement programs. The procedures were outlined in the Regents policy. However, having a cooperative partner made the implementation and operation of agreements an easier process to manage. Administrator Dustin stated, "The Devil is in the details. Sure the policy spells things out, but I need someone to go to their registrar and see if she can hold off posting of grades for the cooperatively enrolled students until my semester ends. Any time you have people involved with running a process, or having students involved, things can get out of whack. You've got to know you're working with someone that won't get to excited or to upset if some little thing goes wrong, you've just got to work some things out." Administrator Samantha stated, "So it really goes back to the personalities involved and the peopled involved and then the support all the way up and down. It really becomes, even after 13 years, a personality deal and a personal agreement between the two institutions. There is not a model in place that you could walk into a new area and two new schools and make it work. It depends on the people running the program."

On an operational level the coordination of class times, assignment of grades and procedures for admitting and enrollment were seen by the interview participants as

necessary components for an efficient cooperative agreement program. Administrator Susan stated, “I don’t think we’ll ever get to a state-wide system on exactly how to admit or enroll students, we don’t even do that now at the community colleges. Each school is different, but we have to have a uniform system, straightforward, direct, and easy if you will. These students are not your traditional students, they hit a little snag and they stop, we have to do a good job on the technology center campus to be sure that each student that can gets to take advantage of the program.”

The urban schools involved with cooperative enrollment agreements each had a procedures manual that outlined the procedures and responsibilities to ensure that students were aware of and provided an opportunity to enroll. Students were usually informed in their classroom setting at the first part of each year by the instructor, or they were informed through a school assembly for adult students. This procedure did miss some students who would enroll late, miss the orientation, or simply not pay attention. Teacher Kasey stated, “We throw so much stuff at them those first few days, we don’t have someone that follows up. We present it, but they are supposed to turn it in over at the counselors office, I really don’t know if they did or didn’t until the end when they ask me for a grade.”

The smaller and medium size schools sampled identified two different mechanisms for enrolling and promoting the cooperative agreements. The two primary methods were; (1) make the teacher the primary enrollment and promotion contact, and (2) appoint an advocate with a specific job function to “chase the paper.” The perception at the smaller schools regarding the most productive mechanism for getting students enrolled, was the appointment of a specific school contact to present cooperative

agreement information one-on-one or in small groups to adult students, secure their college application, walk the paper through the process to ensure that each available student enrolled. During the semester the cooperative enrollment liaison would monitor the enrolled students to make sure that if they did quit attending the technology center that they would properly withdraw from the higher education institution. Administrator Phillip stated, "Sometimes these adults just walk off, find a job or for whatever reasons. We have to make sure that we get them off the roll or they end up with and "F" on their transcript. It may not matter now, or never if they don't go back to college, but sooner or later that kind of thing usually ends up biting them in the butt." At the conclusion of the semester the liaison would walk around the grade sheet for the higher education institution and make sure that each student's grade was reported so they would receive the credit.

The second method present in the smaller and medium sized schools of having the instructor act as the contact, champion or liaison to ensure that each student had the opportunity to enroll and receive credit was reported by the interviewees as being a hit-or-miss process. Administrator Susan stated, "Some do a pretty good job at sign'n' 'em up, maybe even in reporting their grades, but if one just quits coming, they usually get an "F" on their transcript. Eventually the teacher discovers that having fewer sign up just makes it easier on them in the long run." Generally the schools that used the instructors as the primary contact for the operation of the cooperative agreements had a lower number of enrollments and a less identified process for help adult students gain a greater access to higher education.

The interview participants agreed that secondary students did not have as much access to direct information as adult students attending the technology centers. Administrator Kristen stated, “To them it’s a “later” thing. Since it’s not something that they have to do right now, they just miss it. They’re usually just excited to be in the class, new surroundings, new kids…” Secondary students were part of the cooperative program so they received credit for the work done at the technology center only after completing 12 hours at the cooperating higher education institution. Adult students could be concurrently enrolled so the process for enrollment and reporting was done on the campus of each technology center. Secondary students made application their first year in the program but did not see any benefit with regard to the granting of credit hours for nearly three years. Administrator Kristen stated, “For them to get credit, it all takes place after they leave us. We can tell them about it, push it even, but ultimately three (3) months later, if they decide to enroll, most of them just don’t mention it at the community college. They don’t mention it, they don’t get it, simple as that. Sometimes they mention it but whoever enrolls them may not know anything about it, so bottom line it just falls through the cracks.”

Through the process of the interviews the three main focuses of the participants fell into the categories of developing a champion on both the technology center and higher education institutions with regard to cooperative agreements. The second general category identified through the interviews was cooperation of both institutions with regard to the small day-to-day details. The third general category identified through the interview process as being necessary for full implementation of cooperative agreements was the coordination of schedules, times, reporting and operational process components.

Summary of Interviews

The sixteen (16) interviews included subjects with varied backgrounds and perspectives in dealing with cooperative enrollment programs. All in all the respondents were positive about the effects of programs on their school. The overall general consensus of the participants was that the purpose of cooperative agreement programs, "expand student access to education," was mutually shared among Oklahoma technology centers and higher education institutions. They collectively agreed that the process of developing cooperative programs had become significantly easier over time as procedures were developed and applied on a more consistent state-wide basis. They also formed a fairly broad consensus that as trust had developed among the various partners the agreements had begun to "take hold" and provided for easier access to postsecondary education. The interviews did identify that larger schools had developed a more procedurally based process to promote cooperative agreements. However, smaller schools that identified a liaison to assist adult students in a one-on-one arrangement had the largest percentage of eligible students enrolled and the largest percentage of students that had received credit hours at the higher education institution.

The interview subjects were able to identify important barriers to fully implementing cooperative agreements. These variables included; (1) transferability of students from one technology center to another and the subsequent connection to the partnering college; (2) expansion of distance learning technology; (3) duplication of certificate programs; tracking of students going from career and technology education to higher education; and (4) tracking through graduation with an AAS degree of

cooperatively enrolled students. The teachers in the interview process also identified that they had not participated in the required annual review meeting as required by Regents policy.

The interview subjects also identified the necessary components for improving the overall process of cooperative agreements being: 1) cooperation among the schools involved; 2) coordination of different schedules, times, procedures; and most importantly 3) the need for an advocate and facilitator on each campus. The largest key to providing for success of cooperative agreement programs was identified as the individuals making the partnerships.

Focus Group

This research study included a focus group component as a means of triangulation of the data by a group of stakeholders in the application of cooperative agreements. A focus group meeting was arranged at the offices of the Oklahoma State Regents for Higher Education in Oklahoma City. The meeting was scheduled to align with the regularly scheduled meeting of the Council on Instruction conducted monthly by the Oklahoma State Regents. The regular meeting of the Council of Instruction provided a forum for dissemination of new Regents initiatives, and the discussion and development of new Regents policies and procedures. Other invited members included administrators at the Oklahoma Department of Career and Technology Education involved with cooperative agreement programs, the coordinators of each occupational area at the State Department of Career and Technology Education, the Tech Prep coordinators identified by the Oklahoma Department of Career and Technology Education, all the instructors

used in the student sampling component of the research; and all the interview participants. Two (2) individuals, one from each educational system was present for the focus group meeting. The title, position and experience of the two participants were at an elevated status within their respective educational systems and did comprise a uniquely qualified although small panel.

Focus Group Comments

In discussion of the types of agreements the focus group members pointed out that the "Western" model was the only model that was in compliance with the Regents polices on cooperative agreements. The other two models, the course-by-course model and the evolving hybrid model were not in compliance with Regents policies. A member of the focus group indicated that the non-compliance issues had been a continuous problem. The Regents polices had never intended for a course by course cooperative agreement. The intended Regents policies were to have cooperative agreements in a package format and applied to an AAS degree only. The focus group also identified that the hybrid model was a further misuse of Regents polices. The hybrid model granted an equal number of credit hours, but was done contrary to policy by being identified in a course by course method and also being able to be used in an AS degree plan.

The demographics of cooperative agreements were reviewed and a brief discussion of the different accounting procedures and the individual grouping of each system was held. The Higher Education representative did agree with the numbers reported by the study. A focus group member identified that there were 25 total higher education institutions in Oklahoma, but only 18 had cooperative agreements. The 18

higher education institutions were the only higher education institutions that were allowed to have cooperative agreements because they offered an AAS degree. The remaining seven (7) higher education institutions were not eligible to participate in cooperative agreement programs. The percentages of cooperative agreements within each occupational area were reviewed along with the response rates, and student demographics. The focus group concurred that the numbers were, "fairly accurate," and "stands to reason."

The sampled student's knowledge on the availability of credit hours through cooperative agreements, hours available, and partnering higher education institution data was reviewed. Coordinator Roy stated, "I've heard that time and time again, kids just don't know the hours. Another part of that is that, hours just don't mean anything to them yet." The focus group commented that much of the student's knowledge depended on the teacher in that classroom. Coordinator Roy stated, "The kids don't go out and look into things, and it's up to the teacher to tell them what's available." A focus group member remarked that most students had a low knowledge level of how colleges work, an overall general confusion with regard to multiple agreements with multiple schools, and a lack of confidence that they would actually qualify if the students even attended the higher education institution.

The findings regarding the sampled students' intent to work in their career field were reviewed along with the data regarding students' intent to continue education. The Business and Information Technology Education students' low response with regard to working in the career field was interpreted as expected. Administrator Roy injected, "Business is just a category for students to be in until they figured out what they were

going to do. Most of those kids are going to college, and the easy thing to do is to be business major until you have to choose something." Another response was that students in business were just picking up some saleable skills to use as a way to work their way through college. Administrator Roy commented, "A lot of the guys pick-up web design so they didn't have to sack groceries while they were in school, and the girls could work a part-time job in an office somewhere, or even on work study."

While reviewing the interview data generated a focus group member commented on knowledge of the political pressure and competition among the higher education institutions to have a large number of agreements. The member indicated that the primary initiatives of cooperative agreements should have been on technical areas where an AAS degree was recognized as necessary for employment and where an AAS was seen a valuable credential. The focus group member felt like the pressure was generated when higher education institutions counted their number of agreements rather than the quality of the credential as being important.

The lack of an annual review meeting was acknowledged as accurate by the focus group. One member commented that in evaluations by the Oklahoma Regents there had never been a consistent reporting of review meetings. The reporting schools indicated that the review was incorporated into a larger agenda but not in a specific meeting. The higher education schools showed where the review meetings were on an agenda, or part of another meeting but never any minutes or plans for improvements were generated. Both the career tech representative and higher education representative could describe schools and coordinators that they knew who conducted annual meetings according to

policy and were a priority. However, both members agreed that the large majority of schools did not hold annual review meetings in compliance with Regents policy or intent.

When discussing the barriers to implementation of cooperative agreements the focus group identified that the tracking system for students was addressed in the new alliance model. One focus group member commented that the data issue became problematic for the two systems initially because of a lack of cooperation and general overall suspicion between career and technology education and higher education. The member explained that privacy issues with regard to social security numbers and student information always seemed to be the convenient explanation as to why direct student comparisons and tracking could not be implemented. Coordinator Roy commented, "I think the real issue was one of trust, we're a lot farther along now, so hopefully that issue will disappear when we roll out the new alliance model." The difference with regard to tracking students of the alliance model and the current method was discussed. The higher education representative explained that the primary variation was that secondary students and adult students would both be concurrently enrolled. Coordinator Roy explained, "Once higher ed enrolls them, they issue a student number right then. That number will attach to the student social security number. That way you won't have agencies sharing the information, higher ed will have it right up front and they can track that student no matter where they go to school."

Focus Group Summary

The overall comments of the focus group centered on the general accuracy of the reported percentages with regard to the number of agreements, types of students and

operation of cooperative agreements. The two reported that their primary interest was to use the research as a baseline for checking the improvements made through the alliance model. They both agreed that they saw several things that piqued their interests, and would want to follow up on later.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to describe the nature and effects of articulated cooperative technical education agreements between Oklahoma technology centers and higher education institutions. There were four (4) specific research questions for the study: (1) What were the current demographics of cooperative agreement programs in Oklahoma?; (2) To what degree had articulated programs affected current student decisions to enroll in secondary career tech programs?; (3) What did teachers and administrators perceive as the challenges of developing articulated programs at the secondary and post secondary levels?; and (4) What did teachers and administrators perceive as necessary for cooperative agreement programs to expand access to educational services?

The study developed data from three primary sources. The first data generated was from a written student survey questionnaire. The sample for this portion of the study came from 26 programs at career and technology centers in Oklahoma. A total of 40 individual classes were sampled who returned 512 questionnaires of which 483 were used to providing an insight of basic student demographic information, student knowledge of cooperative agreements, student intent upon graduation, and factors influencing enrollment. The second data set developed was from sixteen (16) interviews of both technology center and higher education administrators and instructors. Each group

provided four (4) interview participants and a purposeful sample was chosen to provide for urban and rural representation, and to provide a broad perspective from schools that reported a large number, medium number and small number of cooperative agreements. Participants were also selected through referrals and input of primary stakeholders involved with cooperative agreements from both the Oklahoma Department of Career and Technology Education and the Oklahoma State Regents for Higher Education. The two systems identified individuals that had unique positions with regard to cooperative agreements both positive and/or negative which provided a rich perspective. The third data set was generated through a focus group meeting of primary stakeholders involved with developing, operating and evaluating cooperative agreements in Oklahoma. The focus group reviewed the findings of the student and interview data.

Descriptive analysis was used to determine the basic student demographics, students' knowledge of cooperative agreements, student intent after graduation, and factors that influenced their decisions to enroll in cooperative agreement programs. Theme identification and development was used to analyze the interview component of the research, and the focus group provided for member checking and triangulation of the data sources, methods and perspectives.

Conclusions

While the results of this study identified some positive trends with regard to cooperative agreement programs between Oklahoma technology centers and higher education institutions, the study also produced some results that indicated a lack of consistent application of Regents' policy, lack of reliable identification procedures for cooperatively enrolled students and lack of a definitive evaluation and improvement

process. Data from the study also indicated a low number of students participating in cooperative agreement programs. This lack of participation was difficult to precisely identify because of the lack of a tracking students once they moved from secondary education to postsecondary education. Due to the nature of the population, the findings can only be stated for the sampled programs and interview participants. As a result of the data, the following conclusions are drawn:

(1). Cooperative agreements in the state of Oklahoma are firmly established and existed in a variety of programs. This conclusion is based upon the following findings. Cooperative agreement programs were present in 100 percent of the area technology center campuses (29) and eligible higher education institutions (18) in the state of Oklahoma. There are a total of 25 higher education institutions in Oklahoma but only 18 qualified according to Regents policy as being eligible to participate in the cooperative agreement program. To be eligible the higher education institution must offer an AAS degree. The number of agreements ranged from 210 agreements at OSU-Okmulgee to one (1) agreement on the campus of Carl Albert State College. There were 714 individual cooperative agreements self-reported by Oklahoma technology centers. The range of the number of agreements was 226 for the Kiamichi Technology Centers to two (2) agreements for Western Technology Center. Trade and Industrial Education had the largest number (347) of cooperative agreements followed by Business and Information Technology (220), Health Occupations (104), Family and Consumer Sciences (35), Marketing (7), and one (1) cooperative agreement for Agriculture Education.

(2). There is an inconsistency between policy and practice with regard to operating cooperative agreement programs in the state of Oklahoma. This conclusion is based on the following findings. Three primary models emerged as the principle structures of cooperative agreements, the "western" model, course by course model, and the hybrid model. The only model that complied to Regents policy with regard to structure was the "Western" model. The western model was present in only 42 percent of the sampled programs. The course by course model accounted for 41 percent of the sampled programs, and the remaining 17 percent of the sampled programs followed the hybrid model of cooperative agreement programs.

(3). The demographic findings of the sample are appropriately reflective of the career and technology education system. Generally career and technology centers have more trade and industrial education programs than in other occupational areas. The career and technology centers serve both secondary and adult students thus the following findings support the aforementioned conclusion. The overall majority of gender enrolled in the cooperative agreement programs was male. However, the gender majority in Business and Information Technology, Health Occupations and Family and Consumer Sciences was female. The large concentration of males in Trade and Industrial Education provided for a 62 percent overall male response. Secondary students also comprised the majority of overall enrollment for the occupational areas with 59 percent being reported. Business and Information Technology did report a 58 percent representation of adult student enrollment at the area technology centers. Nearly three quarters of all the enrollment at the technology centers was categorized as first-year by the sampled

students. Each of the four (4) sampled occupational areas reported secondary students as comprising the largest percentage of enrollments from a high of 90 percent in Health Occupations to a low of 55 percent in Family and Consumer Sciences.

(4). Efforts to establishing the opportunity to earn college credit as a primary incentive for enrollment in secondary cooperative agreement programs seems to be ineffective. This conclusion is based on the following findings. The most frequently reported variables that influenced the students' decision to enroll at the technology center were primarily that the program was perceived to help them achieve their career and education goals or to enter the workforce. However, the sampled students post gradation plans were to continue education which was just slightly elevated above seeking employment in their occupational area. Sampled students indicated a balanced perspective with regard to continuing education and working in the career field of their occupational program. An overall mean score of 3.33 on a 4.0 scale was reported for the sampled students' intent to work in their career field and a 3.15 with regard to continuing education. These apparently conflicting findings indicate that students enter their programs without consideration of available college credit, however may change their understanding of the possibility further as they progress through the program.

(5). The effort of area technology centers has been ineffective with regard to creating a well developed student understanding of the nature of cooperative agreement programs. This conclusion is based upon the following findings. Students demonstrated an overall awareness that their program had a cooperative agreement which allowed for

advanced standing college credit. However, the students were unable to accurately list specific information with regard to the number of credit hours available or identify the partnering higher education institution(s).

(6). Efforts to develop a seamless cooperative agreement system seem to be succeeding. This conclusion is supported by the findings that administrators and instructors at area technology centers and higher education institutions have increasingly addressed through greater levels of cooperation and coordination their identified barriers for effective implementation of cooperative agreement programs. The general consensus of the interview and focus group participants was that the barriers of a general lack of trust between the two systems, a lack of understanding of the other educational system, bureaucracy of the process for development of cooperative agreements, and difficulty with coordination of schedules with regard to distance learning, grades, enrollment and calendars had improved over time and through experience.

(7). The state of Oklahoma does not have the ability to effectively measure the return on investment or to provide a basis for planning or program improvement of cooperative agreements between technology centers and higher education institutions under the current system. This conclusion is based on the finding that there was no state-wide tracking system that reveals the number of matriculated students who earned their associate degrees coming from articulated secondary programs. However, the proposed alliance model will concurrently enroll secondary and adult students in both the area technology center and partnering higher education institution. This model could allow

the Oklahoma Regents for Higher Education and the Department of Career and Technology Education the ability to identify and separate cooperative enrolled student data for reporting purposes. Thus a determination of return on investment and a basis for planning and program improvement could be achieved.

Recommendations for Future Research

This study has provided students and program data concerning 40 individual technology center classes participating in cooperative agreement programs with higher education institutions. The data generated by this study may serve as baseline data for further studies. The following are recommendations for further research.

(1). Conduct a study to investigate the factors which impact why college credit is not a major influence on student enrollment decisions.

(2). Conduct a study to investigate why secondary students do not have a comprehensive or accurate understanding of the elements of a cooperative agreement program.

(3). Conduct a study to investigate the appropriateness of the inclusion of particular trade and industrial education programs with regard to the earning of an associate degree as an advantage to entering and competing in the job market.

(4). Conduct a study to investigate whether duplicate certificate programs that exist at cooperating institutions provides for an unfair advantage for either institution.

(5). Conduct a follow-up study after five (5) years to determine if the alliance model altered the perceptions of administrators and teachers with regard to barriers and components necessary for improvement.

(6). Conduct an annual review and a five year follow-up study to measure the number of programs, number of cooperative credit hours, number of students matriculating from the technology centers to the higher education institutions, and the number of graduates receiving an AAS degree traceable to cooperative agreement programs. That would allow measurement with regard to return on investment.

(7). Conduct a study to measure the effectiveness of the distance learning technology delivery of college general education courses to concurrently enrolled students to measure impact on technical skills.

(8). Conduct a case study research project of a program with a small number and a program with a large number of enrollments traceable to cooperative agreement programs in each of the occupational areas. Special focus should be made to identify the number of students who are the first member of their family to attend college and measure the effect of distance from the community college on their decision to continue their education.

(9). Conduct a research study to identify if students that matriculate through a cooperative agreement program to a community college, through graduation with an AAS degree and into their career field are better prepared for work place challenges.

(10). Conduct a research study to examine particular policies and practices that encourage or impede student participation in cooperative agreement programs.

Recommendations for Practice

While further consideration and discussion is necessary with regard to specific policy initiatives, this study provided sufficient evidence to recommend the continued efforts of area technology centers and the Oklahoma higher education institutions to more fully implement cooperative agreement programs. This study identified several components necessary for cooperative agreement programs to have the greatest positive effect on expanding students' access to education. The following recommendations for practice are suggested.

(1). Increase the joint planning time with faculty members from both institutions to review, modify and improve cooperative agreements.

(2). Strengthen state involvement from the Department of Career and Technology Education to assist area technology centers in increasing the number of students enrolling in cooperative agreement programs.

(3). Increase the participation of key stakeholders from higher education institutions, career and technology education, and business and industry in annual reviews for program improvement and planning.

(4). Develop a joint effort between area technology centers and higher education institutions to heighten awareness of cooperative agreement programs with teachers, parents, students, technology center counselors, high school counselors, and higher education advisors.

(5). A joint effort should be made by area technology centers and higher education institutions to provide training for teachers, counselors, registrars and staff members on admitting, enrollment and procedures of cooperative agreement programs.

(6). A joint effort should be made by area technology centers and higher education institutions to provide preparatory services for students to increase their success rate for making the transition to a higher education environment, and the eventual success of achieving an AAS degree.

(7). A joint effort should be made to establish a position and training program for individuals to work as facilitator, coordinator and advocate for cooperative agreement programs at technology centers and higher education institutions

(8). A joint effort should be made that both systems at the upper level of policy development continue to demonstrate cooperation and coordination between the two systems.

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APPENDIXES

APPENDIX A

ADMINISTRATORS COVER LETTER

Dear (Administrators name typed in),

My name is Bud Smithson and I'm the director of secondary education at Eastern Oklahoma County Technology Center located in Choctaw. I am a doctoral student and currently conducting a research study concerning the effects of cooperative enrolled programs in the state of Oklahoma. The title of the research is **"The Effects of Cooperative Agreement Programs between Technology Centers and Community Colleges in Oklahoma."** This research is being conducted through Oklahoma State University, and has been reviewed and approved by the Institutional Review Board of Oklahoma State University.

Programs in your school were selected to be representative of cooperative enrolled programs from a list of programs in the state of Oklahoma. The survey is proportional to rural and urban technology centers as well as proportional representation to each career cluster area. Your schools participation would be helpful to accurately represent current cooperative enrolled programs in the state. I hope that the results of this study will help in the planning and improvement of cooperative enrolled programs in the state of Oklahoma, making it easier for students who want to continue their education at the post-secondary level.

Your schools participation, your instructor's participation and your student's participation is completely voluntary. You are asked to grant the schools participation before I will ask your instructors. I will ask for your instructor's approval before I will ask for student participation. If you choose not to participate, simply return the enclosed documents in the SASE.

I would appreciate you taking 15 – 30 minutes of your time to look over the your consent form, the instructors letter and consent form, the students letter and assent form as well as the student survey. If you are willing to allow your schools instructors and students to participate, simply sign the attached consent form and return it to me in the SASE. All records of this research will be kept exclusively by the researcher under lock and key. After the research has been concluded and the dissertation approved, all records will be destroyed. A copy of all the letters, consent forms, assent form and survey instruments are attached for your records.

Thank you for taking the time to assist me with this research, if you have any questions please contact me at (405) 454-3326. If you have any questions regarding your rights, your instructor's rights or your student's rights as research participants, you may call the Office of Research Compliance Division of the Vice President for Research at (405) 744-5700. Thank you again for your help and for allowing me to take valuable classroom time to administer the questionnaire. Your participation is greatly appreciated.

If you agree to allow your school to participate, simply sign & date the consent form attached to this letter. A copy of your consent form is on the back of this letter for your future reference.

Sincerely,

Norman Dean "Buddy" Smithson
Doctoral Student at Oklahoma State University
2585 Maple Drive
Harrah, OK 73045
(405) 454-3326
bsmithson@eoctech.org

APPENDIX B

ADMINISTRATORS INFORMED CONSENT

I, ____(Name typed in)_____ hereby authorize or direct Norman "Buddy" Smithson to perform the following procedure.

Administer a student questionnaire to students in my school.

I understand that my real name, instructor's name, program name, or school name will not be used at any point of information collection or in the dissertation. Any names used will be fictitious.

I understand that participation in this Oklahoma State University research project is voluntary. There is no penalty for refusal to participate, and I am free to withdraw my consent and end my participation in this research project at any time without penalty by notifying the doctoral student or his advisor.

I understand that the survey will be conducted according to commonly accepted research procedures and that the information taken from the instruments will be recorded in such a manner that subjects cannot be identified directly or through identifiers linked to the student, the program, the instructor or the school.

I understand that the instruments will **NOT** cover topics that could reasonably place the student, the instructor, the program or the school at risk of criminal or civil liability or be damaging to the student, the program, the instructor or the school in regard to financial standing, employability or deal with sensitive aspects of illegal conduct, drug use or sexual behavior.

I understand that if I have any concerns, questions or wish to end my participation I may contact:

Norman Dean "Buddy" Smithson
2585 Maple Drive
Harrah, OK 73045
bsmithson@eoctech.org
(405) 454-3326 (home)
(405) 409-0962 (cell)

Dr. Rey Martinez
Associate Professor
209 Willard Hall
Oklahoma State University
Stillwater, OK 74078
rlm6604@okstate.edu
(405) 744-7741

Beth Ternan
IRB Executive Secretary
University Research Services
203 Whitehurst
Oklahoma State University
Stillwater, OK 74078
(405) 744-5700

Do you grant permission to participate in this research activity _____ Yes _____ No
I have read and fully understand the consent form. I sign freely and voluntarily. A copy has been given to me.

_____ _____ _____am/pm
(Typed Administrators name) Date Time

I certify that I have personally explained all elements of this form to the subject before requesting the subject sign it.

_____ _____ _____am/pm
Norman Dean Smithson, Researcher Date Time

APPENDIX C

INSTRUCTORS COVER LETTER

Dear Instructor,

My name is Bud Smithson and I'm the director of secondary education at Eastern Oklahoma County Technology Center located in Choctaw. I am a doctoral student and currently conducting a research study concerning the effects of cooperative enrolled programs in the state of Oklahoma. The title of the research is **"The Effects of Cooperative Agreement Programs between Technology Centers and Community Colleges in Oklahoma."** This research is being conducted through Oklahoma State University, and has been reviewed and approved by the Institutional Review Board of Oklahoma State University.

Your class was selected to be representative of cooperative enrolled programs from a list of programs in the state of Oklahoma. The survey is proportional to rural and urban technology centers as well as proportional representation to each career cluster area. Your participation would be helpful to accurately represent current cooperative enrolled programs in the state. I hope that the results of this study will help in the planning and improvement to cooperative enrolled programs in the state of Oklahoma, making it easier for students who want to continue their education.

Your participation has already been approved by your administration, but by no means does this obligate you to participate. Your participation and your student's participation is completely voluntary. If you choose not to participate, simply return the questionnaires in the enclosed envelope.

I would appreciate you taking 15 – 30 minutes of your class time to distribute the introduction letter along with the stapled assent form and questionnaire. The students are to keep the introduction letter, and a copy of the assent form for their future reference. Students are to return to you the stapled assent form and questionnaire. I will separate the assent form from the questionnaire immediately upon receipt of your mailing and at no time will your students names, your name, your program name or your school name appear with their answers. All records of this research will be kept exclusively by the researcher under lock and key. After the research has been concluded and the dissertation approved, all records will be destroyed.

Thank you for taking the time to assist me with this research. If you have any questions please contact me at (405) 454-3326. If you have any questions regarding your rights or your student's rights as research participants, you may call the Office of Research Compliance Division of the Vice President for Research at (405) 744-5700. Thank you again for your help and for taking valuable classroom time to help me administer the questionnaire. Your participation is greatly appreciated.

If you agree to participate, simply sign & date the consent form attached to this letter, administer the survey and mail your consent form along with the students stapled assent forms and questionnaires back to me. A copy of your consent form is on the back of this letter for your future reference.

Sincerely,

Norman Dean "Buddy" Smithson
2585 Maple Drive
Harrah, OK 73045
(405) 454-3326

Doctoral Student at Oklahoma State University

bsmithson@eoctech.org

APPENDIX D

INSTRUCTORS INFORMED CONSENT

I _____hereby authorize or direct Norman "Buddy" Smithson to perform the following procedure.

Administer a questionnaire to my students.

I understand that my real name, students' names, program name, or school name will not be used at any point of information collection or in the dissertation. Any names used will be fictitious.

I understand that participation in this Oklahoma State University research project is voluntary. There is no penalty for refusal to participate, and I am free to withdraw my consent and end my participation in this research project at any time without penalty by notifying the doctoral student or his advisor.

I understand that the survey will be conducted according to commonly accepted research procedures and that the information taken from the instruments will be recorded in such a manner that subjects cannot be identified directly or through identifiers linked to the student, the program, the instructor or the school.

I understand that the instruments will **NOT** cover topics that could reasonably place the student, the instructor, the program or the school at risk of criminal or civil liability or be damaging to the student, the program, the instructor or the school in regard to financial standing, employability or deal with sensitive aspects of illegal conduct, drug use or sexual behavior.

I understand that if I have any concerns, questions or wish to end my participation I may contact:

Norman Dean "Buddy" Smithson	Dr. Rey Martinez	Beth Ternan
2585 Maple Drive	Associate Professor	IRB Executive Secretary
Harrah, OK 73045	209 Willard Hall	University Research Services
bsmithson@eoctech.org	Oklahoma State University	203 Whitehurst
(405) 454-3326 (home)	Stillwater, OK 74078	Oklahoma State University
(405) 409-0962 (cell)	rlm6604@okstate.edu	Stillwater, OK 74078
	(405) 744-7741	(405) 744-5700

Do you grant permission for your students participate in this research activity ____Yes _____ No

I have read and fully understand the consent form. I sign freely and voluntarily. A copy has been given to me.

_____ _____ _____am/pm

Date Time

I certify that I have personally explained all elements of this form to the subject before requesting the subject sign it.

_____ _____ _____am/pm

Norman Dean Smithson, Researcher Date Time

APPENDIX E

STUDENTS COVER LETTER

Dear Student,

Your class has been selected to participate in a research study from a list of programs in the state of Oklahoma. The title of this study is "The Effects of Cooperative Agreement Programs between Technology Centers & Community Colleges in Oklahoma." This research is being conducted through Oklahoma State University, and has been reviewed and approved by the Institutional Review Board of Oklahoma State University.

Your participation is voluntary.

Your participation would be appreciated and only involves taking 15-30 minutes of your time to complete the attached questionnaire. I want to find out what students think about why you enrolled, what your future plans are, and if you are aware of the college connections of your program. Please sign and date the assent form, complete the questionnaire and return to your instructor. If you don't want to participate just hand the forms back to your instructor.

Do not separate the assent form from the questionnaire.

Do not put your name on the questionnaire.

I will separate your consent form from the questionnaire, and only I will have access to the completed questionnaires. All records of this research will be kept exclusively by the researcher under lock and key. After the research has been concluded and the dissertation approved, all records will be destroyed.

Your answers will be kept confidential and at no time will your answers appear with your name, your program or your school. Return the stapled, completed consent form and survey questionnaire to your instructor. A copy of the consent form is on the back of this letter for your future reference. Participation is voluntary and no direct or indirect benefits are associated with your participation in this research.

Thank you for taking the time to assist me with this research. If you have any questions please contact me at (405) 454-3326. If you have any questions regarding your rights as a research participant, you may call the Office of Research Compliance Division of the Vice President for Research at (405) 744-5700. Thank you again for your help. Your participation is greatly appreciated.

Sincerely,

Norman Dean "Buddy" Smithson
Doctoral Student at Oklahoma State University
2585 Maple Drive
Harrah, OK 73045
(405) 454-3326
bsmithson@eoctech.org

APPENDIX F

STUDENTS INFORMED ASSENT

I, _____, (print your name) hereby authorize or direct Norman "Buddy" Smithson or associates or assistants of his choosing, to perform the following procedure.

Administer a Questionnaire

I understand that my real name, instructor's name, program name, or school name will not be used at any point of information collection or in the dissertation. Any names used will be fictitious.

I understand that participation in this Oklahoma State University research project is voluntary. There is no penalty for refusal to participate, and I am free to withdraw my consent and end my participation in this research project at any time without penalty by notifying the doctoral student or his advisor.

I understand that the survey will be conducted according to commonly accepted research procedures and that the information taken from the instruments will be recorded in such a manner that subjects cannot be identified directly or through identifiers linked to the student, the program, the instructor or the school.

I understand that the instruments will **NOT** cover topics that could reasonably place the student, the instructor, the program or the school at risk of criminal or civil liability or be damaging to the student, the program, the instructor or the school in regard to financial standing, employability or deal with sensitive aspects of illegal conduct, drug use or sexual behavior.

I understand that if I have any concerns, questions or wish to end my participation I may contact:

Norman Dean "Buddy" Smithson 2585 Maple Drive Harrah, OK 73045 bsmithson@eoctech.org (405) 454-3326 (home) (405) 409-0962 (cell)	Dr. Rey Martinez Associate Professor 209 Willard Hall Oklahoma State University Stillwater, OK 74078 rlm6604okstae.edu (405) 744-7741	Beth Ternan IRB Executive Secretary University Research Services 203 Whitehurst Oklahoma State University Stillwater, OK 74078 (405) 744-5700

Do you grant permission to participate in this research activity _____ Yes _____ No

I have read and fully understand the consent form. I sign freely and voluntarily. A copy has been given to me.

_____ _____ _____am/pm

Signature Date Time

I certify that I have personally explained all elements of this form to the subject before requesting the subject sign it.

_____ _____ _____am/pm

Researcher/Associate/Assistant Date Time

APPENDIX G

STUDENTS SURVEY QUESTIONNAIRE

1. Male _____ Female _____
2. Are you a high school student? _____ Yes _____ No
3. Are you an adult student? ____ Yes _____ No
4. How long have you been in this program? _____ First year _____ Second Year
5. Does your program offer college credit? _____ Yes _____ No _____ Don't know

   a. If yes… How many credit hours are available? _____ _____ Don't know

   b. With what school? _____ _____ Don't know

6. Do you plan to go to work in this career field after graduation?

____ No _____ Not sure _____Maybe ____ Probably _____Yes

7. Do you plan to continue your education after graduation?

____ No _____ Not sure _____Maybe ____ Probably _____Yes

If maybe, probably, or yes, do you plan to go to a:

_____ 2 year college _____ 4 year university

_____ Technical school _____ Continue current class

_____ Other (please list) _____

8. Why did you choose to enroll in this program? (check all that apply)

_____ Counselor advice _____ Friends _____ Advertisement

_____ Parent advice _____ To help with career/education goals

_____ Teacher advice _____ To help get a job _____ Employer

_____ Tour of class _____ College Credit _____ Co-worker

_____ Easy Credit _____ Other (please list)_____

9. What do you plan to do after graduation? (check all that apply)

___ Seek employment ___ Look for a new job. ___ Continue my education

___Not enter the work force ___ Continue to work where I'm currently employed

___ Join the military ___ Other (please list) _____

APPENDIX H

OKLAHOMA AREA TECHNOLOGY CENTERS

COOPERATIVE AGREEMENTS BY INSTITUTION

Cooperative Agreements for AUTRY TECHNOLOGY CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Aviation Technology	Aviation Maintenance Technology	Enid	NOC, Enid and Tonkawa	27
Business and Information Technology	Office Management Information Technology (Net. Eng.)	Enid	NOC, Enid and Tonkawa	30 48
Child Care (CDA Training)	Child Development	Enid	NOC, Enid and Tonkawa	6
Drafting and Design	Engineering Tech-Drafting and Design	Enid	NOC, Enid and Tonkawa	35
Electronic Systems	Electronics Technology	Enid	NOC, Enid and Tonkawa	50
Electronics Technology	Electronics Technology	Enid	NOC, Enid and Tonkawa	18
Graphic Arts	Printing Technology	Enid	NOC, Enid and Tonkawa	30
Health Occupations Certification	Health Service Technology	Enid	NOC, Enid and Tonkawa	27
Medical Assisting	Office Management Option	Enid	NOC, Enid and Tonkawa	27
Practical Nursing	Nursing	Enid	NOC, Enid and Tonkawa	16
Radiography	Radiography	Enid	NOC, Enid and Tonkawa	52
Surgical Technology	Surgical Technology	Enid	NOC, Enid and Tonkawa	34
	Industrial Technology	Enid	NOC, Enid and Tonkawa	16
Air Conditioning and Refrigeration	A/C and Refrigeration Technology	Enid	OSU-Okmulgee	6
Automotive Service Technology	Automotive Technology	Enid	OSU-Okmulgee	5-6
Business and Information Technology	Business and Computer Technology: Accounting Business Administration Computer Systems Technology Legal Secretarial Technology Medical Secretarial Technology	Enid	OSU-Okmulgee	 18 18 21 21 18

	Office Technology			27
Collision Repair Technology	Collision Repair Technology	Enid	OSU-Okmulgee	10
Construction Technology	Constructions Technology	Enid	OSU-Okmulgee	9
Culinary Arts	Food Service Management	Enid	OSU-Okmulgee	11
Diesel and Heavy Equipment Technology	Heavy Equipment and Vehicle Institute	Enid	OSU-Okmulgee	7
Drafting and Design	Engineering Graphics Technology	Enid	OSU-Okmulgee	29
Electronic Systems	Electrical and Electronics Technology	Enid	OSU-Okmulgee	36
Electronics Technology	Electrical and Electronics Technology	Enid	OSU-Okmulgee	21
Graphic Arts	Visual Communications Technology	Enid	OSU-Okmulgee	9
Drafting and Design	Architectural Technology	Enid	OSU-OKC, Oklahoma City	
Students can receive credit for all Autry Tech Center programs containing approximately 1, 050 clock hours.		Enid	Cowley County Community College, Arkansas City, KS	44
Completion agreements for Surgical Tech and Radiography programs for a BS in Management and Ethics		Enid	Mid-America Bible College, Oklahoma City	-
All TC programs can complete a baccalaureate degree with an associate degree or 48 transcripted hours and employment for more than three years		Enid	Southwestern College Professional Studies, Wichita and Winfield, KS	-
BA Completion program available to graduates of the Radiography program can be completed online		Enid	University of St. Francis, Joliet, IL	-

Cooperative Agreements for CADDO KIOWA TECHNOLOGY CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Business and Computer Technology	Business Administration	Ft. Cobb	Redlands Community College	31
Child Development	Child Development	Ft. Cobb	Redlands Community College	28
Emergency Medical Technology	Emergency Medical Technology	Ft. Cobb	Redlands Community College	7
Horticulture	Horticulture Technology	Ft. Cobb	Redlands Community College	17
Child Development	Child Development	Ft. Cobb	Western Oklahoma State University	40

Cooperative Agreements for CANADIAN VALLEY TECHNOLOGY CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Business and Computer Technology: Business and Office	Business Administration: Accounting Emphasis	Chickasha and El Reno	Redlands Community College	12
Business and Computer Technology: Business and Office	Business Administration: Administrative Assistant Emphasis	Chickasha and El Reno	Redlands Community College	27
Business and Computer Technology: Business and Office	Business Administration: International Business Emphasis	El Reno	Redlands Community College	12
Business and Computer Technology: Business and Office	Business Administration: Management Emphasis	Chickasha and El Reno	Redlands Community College	12
Business and Computer Technology: Business and Office	Business Administration: Medical Coding and Reimbursement Emphasis	Chickasha and El Reno	Redlands Community College	27
Business and Computer Technology: Business and Office	Business Administration: Medical Transcription Emphasis	Chickasha and El Reno	Redlands Community College	27
Intergenerational Daycare	Early Childhood Education	Chickasha and El Reno	Redlands Community College	12
Aviation Maintenance	Aviation Maintenance	El Reno	Redlands Community College	21
Emergency Medical	Emergency Medical	Chickasha	Redlands Community	7

Technician	Technician		College	
Computer-aided Drafting	Computer-aided Drafting	Chickasha and El Reno	Redlands Community College	12
Surgical Technology	Surgical Technology Advanced Standing	Chickasha	Redlands Community College	30

Update of Cooperative Agreements for CENTRAL TECH

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Automotive Service Technology	Automotive Technology	Drumright	OSU/Okmulgee	8
Construction Trades	Construction Technology	Drumright	OSU/Okmulgee	33
Commercial Electricity	Construction Technology	Drumright	OSU/Okmulgee	16
Welding/Fabrication Technology	Construction Technology	Drumright	OSU/Okmulgee	3
Diesel Technology	Diesel and Heavy Equipment Technology (Not a degree program)	Drumright	OSU/Okmulgee	7
Commercial Electricity	Electrical & Electronics Technology	Drumright	OSU/Okmulgee	6
Industrial Electronics Technology	Electrical & Electronics Technology	Sapulpa	OSU/Okmulgee	26
Machining/ Manufacturing Technology	Electrical & Electronics Technology	Drumright	OSU/Okmulgee	11
Telecommunications I & II	Electrical & Electronics Technology	Drumright	OSU/Okmulgee	36
Computer-Aided Drafting	Engineering Graphics Technology	Drumright	OSU/Okmulgee	13
Administrative Assistant – Legal	Information Technology	Sapulpa	OSU/Okmulgee	30
Administrative Assistant – Medical	Information Technology	Sapulpa	OSU/Okmulgee	30
Business and Computer	Information Technology	Drumright	OSU/Okmulgee	30

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Technology				
Business and Information Technology	Information Technology	Sapulpa	OSU/Okmulgee	30
Cyber Security Technology	Information Technology	Drumright	OSU/Okmulgee	18
Network Administration	Information Technology	Drumright/Sapulpa	OSU/Okmulgee	18
Web Design/Programming	Information Technology	Drumright	OSU/Okmulgee	6
Machining/ Manufacturing Technology	Manufacturing Technology	Drumright	OSU/Okmulgee	12
Printing Technology	Visual Communications	Drumright	OSU/Okmulgee	4
Graphic Design	Visual Communications	Drumright	OSU/Okmulgee	4
Auto Service Technology	Associate in Applied Technology (AAS)	Drumright	Rogers State University	30
Construction Trades	AAS	Drumright	Rogers State University	30
Cyber Security Technology	AAS	Drumright	Rogers State University	15
Motorcycle Service Technology	AAS	Drumright	Rogers State University	30
Practical Nursing	AAS	Drumright/Sapulpa	Rogers State University	30
Telecommunication Technology	AAS	Drumright	Rogers State University	30
Welding/Fabrication Technology	AAS	Drumright	Rogers State University	30
Administrative Assistant – Legal	Business and Computer Information Systems	Sapulpa	Tulsa Community College	30
Administrative Assistant – Medical	Business and Computer Information Systems	Sapulpa	Tulsa Community College	30

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Business and Computer Technology	Business and Computer Information Systems	Drumright	Tulsa Community College	30
Business and Information Technology	Business and Computer Information Systems	Sapulpa	Tulsa Community College	30
Network Administration	Business and Computer Information Systems	Drumright/Sapulpa	Tulsa Community College	6
Web Design/Programming	Business and Computer Information Systems	Drumright	Tulsa Community College	6
Criminal Justice	Criminal Justice	Sapulpa	Tulsa Community College	6
Computer-Aided Drafting	Design Engineering Technology	Drumright	Tulsa Community College	12
Health Career Certification	Allied Health	Drumright/Sapulpa	Tulsa Community College	3
Machining/ Manufacturing Technology	Numerical Control/Machinist Technology	Drumright	Tulsa Community College	11
Surgical Technology	Surgical Technology	Drumright	Tulsa Community College	33
Truck Driver Training	Truck Driver Training	Drumright	Tulsa Community College	6
Criminal Justice	Criminal Justice	Sapulpa	Cowley County Community College	44
Industrial Electronics	Electronics Technology	Sapulpa	Northeastern Oklahoma A & M College	14

Cooperative Agreements for CHISHOLM TRAIL TECHNOLOGY CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Computer Repair & Networking	Information Technology-Network Engineering Option	Omega	Northern Oklahoma College	42
Delete	Information Technology-Telecommunications Option	Omega	Northern Oklahoma College	30
Computer Web Services	Information Technology-Web Development Option	Omega	Northern Oklahoma College	42
Practical Nursing	Practical Nursing	Omega	Northern Oklahoma College	16
Automotive Technology	Automotive Technology	Omega	Cowley County, KS	46
Business and Computer Technology	Business and Computer Technology	Omega	Cowley County, KS	46
Computer Repair and Networking	Computer Repair & Networking	Omega	Cowley County, KS	46
Computer Web Services	Computer Web Services	Omega	Cowley County, KS	46
Delete	Construction Trades	Omega	Cowley County, KS	46
Health Careers Certification	Health Careers	Omega	Cowley County, KS	46
Delete	Marketing/Management	Omega	Cowley County, KS	46
Practical Nursing	Practical Nursing	Omega	Cowley County, KS	46
Delete	Telecommunications	Omega	Cowley County, KS	46
Automotive Technology	Automotive Service Technology	Omega	OSU-Okmulgee Cooperative Agreements	13
Business & Computer Technology	Business Systems Technology	Omega	OSU-Okmulgee Cooperative Agreements	12

Delete	Business Systems Technology: Marketing	Omega	OSU-Okmulgee Cooperative Agreements	21
Business and Computer Technology	Office Information Systems Technology	Omega	OSU-Okmulgee Cooperative Agreements	26
Delete	Construction Technology-Construction Management	Omega	OSU-Okmulgee Cooperative Agreements	6
Computer Repair & Networking	Electronic Engineering Technology-Computer Networking	Omega	OSU-Okmulgee Cooperative Agreements	9
Business & Computer Technology	Business Administration Technology	Omega	Redlands Community College	17
Health Careers Certificatioin	Emergency Medical Technology	Omega	Redlands Community College	20
Computer Repair & Networking	Industrial Technology	Omega	Southwestern Oklahoma State College	24

Cooperative Agreements for EASTERN OKLAHOMA COUNTY TECH CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Child Development	AAS Fam. & Child Dev	EOC	Rose State	11
Auto Tech	AAS Applied Tech/Auto	EOC	Rose State	25
HVAC	AAS Applied Tech/HVAC	EOC	Rose State	25
Construction Trades	AAS Applied Tech/Construction Trades	EOC	Rose State	23
Graphic Arts	AAS Applied Tech/Graphic Arts	EOC	Rose State	25
Welding	AAS Applied Teach/Welding	EOC	Rose State	25
EMT	AAS/Emergency Medical Tech/Paramedic	EOC	Rose State	31(we are revisiting)
EMT	EMT/Paramedic	EOC	OSU/OKC	33(we are revisiting)
Health Careers	Course- Medical Term	EOC	Rose State	3

Cooperative Agreements for FRANCIS TUTTLE

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Administrative Office Technology	AAS Business – Administrative Office Tech	Rockwell	OkCCC	30
Administrative Office Technology	Office Automation Technician Certificate	Rockwell	OSU-OKC	10
Computer & Accounting Services	AAS – Business Accounting Office Assistant	Rockwell	OkCCC	21
Computer & Accounting Services	As Accounting Computer Information Systems – Accounting emphasis	Rockwell	OSU-OKC	20
Computer Support Technology	AAS Computer Science – Microcomputer specialist Emphasis	Rockwell	OkCCC	39
Computer Support Technology	AAS Computer Information Systems – Computer Technical Support Emphasis	Rockwell	OSU-OKC	40
Database Administrator	AAS, Technology – Database management Industry	Rockwell	OkCCC	39
Electronic Desktop Publishing	AAS, Graphic Communications- Print Media emphasis and Multimedia emphasis	Rockwell	OkCCC	24

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Electronic Desktop Publishing	AAS, Technical Communications – Illustration emphasis	Rockwell	OSU-OKC	12
Information Systems Management	AAS, Technology – Information systems Industry	Rockwell	OkCCC	51
Internet Technologies	AAS Technology – Internet Technologies Industry	Rockwell	OkCCC	40
Medical Office Technology	Certificate of Mastery, Medical Transcription	Rockwell	OkCCC	33
Medical Office Technology	Credit hours only – Medical Office Technology	Rockwell	OSU-OKC	7
Health Science Technology	Credit hours only	Rockwell	OkCCC	3
Medical Assisting	AAS – Medical Assistant	Rockwell	OkCCC	42
Orthotic and Prosthetic Technician	AAS, Orthotic and Prosthetic Technician	Rockwell	OkCCC	43
Practical Nursing	Credit Hours only	Rockwell	OkCCC	7
Respiratory Care	AAS Respiratory Care	Rockwell		43
Automated Manufacturing Tech	AAS, Manufacturing Technology-Robotics/CIM	Portland	OkCCC	44
Auto Collision Repair Tech	AAS Automotive Technology	Rockwell	OkCCC	53
Auto Service Technology	AAS Automotive Technology	Rockwell	OkCCC	33

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
CADD/CAM Specialist	AAS, Computer Aided Design	Portland	OkCCC	35
Enterprise Communications Systems	AAS , Technology, Enterprise Communications Emphasis	Portland	OkCCC	67
BSEP (General Motors Body Service Education Program)	AAS, Automotive Technology	Rockwell	OkCCC	42
Graphic Communications	AAS, Graphic Communications	Rockwell	OkCCC	13-18
Instrumentation & Control Technology	AAS Electronics, Instrumentation and Control Emphasis	Portland	OkCCC	46
Network Technology	AAS Technology, Network Technology Emphasis	Portland	OkCCC	42
Precision Machining/CNC	AAS, Manufacturing Technology, CNC Emphasis	Portland	OkCCC	49
Early Care and Education of Children	AAS Child Development	Rockwell	OkCCC	9

Cooperative Agreements for GORDON COOPER TECHNOLOGY CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Computer & Business Information Technology in Accounting & Financial	Associate in Applied Science in Business/ Information Systems (TRACK OPTIONS) 1. Accounting 2. Financial Services	Gordon Cooper Technology Center's Main Campus	Seminole State College	 28 31
Computer & Business Information Technology in Office Management	Associate in Applied Science in Business/ Information Systems (TRACK OPTIONS) 1. Business/Accounting/ Information Systems 2. Office Management 3. Customer Service 4. Medical Office 5. Legal Office	Gordon Cooper Technology Center's Main Campus	Seminole State College	 16 22 31 31 31
Computer & Business Information Technology in Computer Graphic Design	Associate in Applied Science in Applied Technology	Gordon Cooper Technology Center's Main Campus	Seminole State College	31
Computer & Business Information Technology in E-Commerce Web Programming	Associate in Applied Science in Applied Technology	Gordon Cooper Technology Center's Main Campus	Seminole State College	31

Aviation Maintenance Technology	Associate in Applied Science in Applied Technology	Gordon Cooper Technology Center's Aviation Campus	Seminole State College	33
Tech Center Program	**College Program**	**Tech Center Campus**	**College Campus**	**College Credit Hours**
Computer-Aided Drafting	Associate in Applied Science in Applied Technology	Gordon Cooper Technology Center's Main Campus	Seminole State College	37
Emergency Medical Technician - EMT	Associate in Applied Science in Applied Technology	Gordon Cooper Technology Center's Main Campus	Seminole State College	32
Network Systems Technology	Associate in Applied Science in Applied Technology	Gordon Cooper Technology Center's Main Campus	Seminole State College	31
Precision Machining Technology	Associate in Applied Science in Applied Technology	Gordon Cooper Technology Center's Main Campus	Seminole State College	32
Practical Nursing	Health Related	Gordon Cooper Technology Center's Main Campus	Seminole State College	16 Plus 9 additional upon acceptance into Seminole State College nursing program

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Aviation Maintenance Technology	Associate in Applied Science in Applied Technology	Gordon Cooper Technology Center's Main Campus	Rose State College	27
Automotive Service Technology	Associate in Applied Science in Applied Technology	Gordon Cooper Technology Center's Main Campus	Rose State College	27
Collision Repair	Associate in Applied	Gordon Cooper	Rose State College	27

Technology	Science in Applied Technology	Technology Center's Main Campus		
Heating, Air, and Refrigeration Technology	Associate in Applied Science in Applied Technology	Gordon Cooper Technology Center's Main Campus	Rose State College	27
Electrical Career Technology	Associate in Applied Science in Applied Technology	Gordon Cooper Technology Center's Main Campus	Rose State College	27
Residential and Commercial Construction	Associate in Applied Science in Applied Technology	Gordon Cooper Technology Center's Main Campus	Rose State College	27
Masonry Trades	Associate in Applied Science in Applied Technology	Gordon Cooper Technology Center's Main Campus	Rose State College	27
Applied Welding Technology	Associate in Applied Science in Applied Technology	Gordon Cooper Technology Center's Main Campus	Rose State College	27

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Computer & Business Information Technology	Associate in Applied Sciences in Business and Computer Technology	Gordon Cooper Technology Center's Main Campus	Coffeyville Community College - Kansas	45
E-Commerce Web Programming	Associate in Applied Sciences in Business and Computer Technology	Gordon Cooper Technology Center's Main Campus	Coffeyville Community College – Kansas	45
Automotive Service Technology	Associate in Applied Sciences Automotive Services	Gordon Cooper Technology Center's Main Campus	Coffeyville Community College – Kansas	45
Collision Repair Technology	Associate in Applied Sciences in Collision	Gordon Cooper Technology Center's	Coffeyville Community College – Kansas	45

	Repair	Main Campus		
Computer-Aided Drafting	Associate in Applied Sciences in Computer Aided Drafting	Gordon Cooper Technology Center's Main Campus	Coffeyville Community College – Kansas	45
Network Systems Technology	Associate in Applied Sciences in Computer Networking	Gordon Cooper Technology Center's Main Campus	Coffeyville Community College – Kansas	45
Residential and Commercial Construction	Associate in Applied Sciences in Construction Technology	Gordon Cooper Technology Center's Main Campus	Coffeyville Community College – Kansas	45
Electrical Career Technology	Associate in Applied Sciences in Electrical Technology	Gordon Cooper Technology Center's Main Campus	Coffeyville Community College – Kansas	45
Emergency Medical Technician - EMT	Associate in Applied Sciences in Emergency Medical Technology	Gordon Cooper Technology Center's Main Campus	Coffeyville Community College – Kansas	45
Computer Graphic Design	Associate in Applied Sciences in Printing Technology	Gordon Cooper Technology Center's Main Campus	Coffeyville Community College – Kansas	45
Aviation Maintenance Technology	Associate in Applied Sciences	Gordon Cooper Technology Center's Main Campus	Coffeyville Community College – Kansas	45
Tech Center Program	**College Program**	**Tech Center Campus**	**College Campus**	**College Credit Hours**
Heating, Air, and Refrigeration Technology	Associate in Applied Sciences in Heat and Air Conditioning	Gordon Cooper Technology Center's Main Campus	Coffeyville Community College – Kansas	45
Precision Machining Technology	Associate in Applied Sciences in Precision Machining Technology	Gordon Cooper Technology Center's Main Campus	Coffeyville Community College – Kansas	45
Applied Welding	Associate in Applied	Gordon Cooper	Coffeyville Community	45

Technology	Sciences in Welding Technology	Technology Center's Main Campus	College - Kansas	
Professional Diesel Technology	Associate in Applied Sciences	Gordon Cooper Technology Center's Main Campus	Coffeyville Community College – Kansas	45
Early Care & Education	Associate in Applied Sciences	Gordon Cooper Technology Center's Main Campus	Coffeyville Community College – Kansas	45

Cooperative Agreements for GREAT PLAINS TECHNOLOGY CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Automotive Service Technology	A.A.S. in Applied Technology	Lawton	Western Oklahoma State College	30
Automotive Collision Technology	A.A.S. in Applied Technology	Lawton	Western Oklahoma State College	30
Medium Heavy Duty Truck Service Technology	A.A.S. in Applied Technology	Lawton	Western Oklahoma State College	30
Drafting Technology	A.A.S. in Applied Technology	Lawton	Western Oklahoma State College	30
Electronics Technology	A.A.S. in Applied Technology	Lawton	Western Oklahoma State College	30
Farm Diesel Technology	A.A.S. in Applied Technology	Frederick	Western Oklahoma State College	30
Graphics and Imaging Technology	A.A.S. in Applied Technology	Lawton	Western Oklahoma State College	30
Fundamentals of Multimedia Services	A.A.S. in Office Systems Technology	Lawton	Western Oklahoma State College	18
Fundamentals of Computerized Accounting and Financial Services	A.A.S. in Office Systems Technology	Lawton	Western Oklahoma State College	18
HVAC Technology	A.A.S. in Applied Technology	Lawton	Western Oklahoma State College	30
Welding	A.A.S. in Applied Technology	Lawton	Western Oklahoma State College	30
Security Guard (ACD)	A.A.S. in Criminal Justice	Lawton	Western Oklahoma State College	8
Emergency Medical Technology (ACD)	A.A.S. in Emergency Medical Technology	Lawton	Western Oklahoma State College	38
Industrial Maintenance	A.A.S. in Applied	Lawton	Western Oklahoma State	48

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Technology	Technology		College	
Microcomputer Hardware-Software Network Technician	A.A.S. in PC Hardware/Networking Specialist	Lawton	Western Oklahoma State College	32
Network Technology	A.A.S. in PC Hardware/Networking	Lawton	Western Oklahoma State College	32
E-Commerce	A.A.S. in Office Systems Technology	Lawton	Western Oklahoma State College	7
Residential Carpentry/Cabinet Making	A.A.S. in Applied Technology	Lawton	Western Oklahoma State College	30
Residential/Commercial Wiring	A.A.S. in Applied Technology	Lawton	Western Oklahoma State College	30
License Practical Nursing	A.A.S. in Nursing	Lawton	Western Oklahoma State College	18
EMT/Fire Fighter	A.A.S. in Fire Technology	Lawton	Western Oklahoma State College	24
Radiographry	A.A.S. in Radiography Technology	Lawton	Western Oklahoma State College	40
Commercial Food Service	A.A.S. in Hospitality Services Technology	Lawton	OSU-Okmulgee	11
Drafting	A.A.S. in Engineering Graphics Technology	Lawton	OSU-Okmulgee	12
Electronics	A.A.S. in Electrical/Electronics Technology	Lawton	OSU-Okmulgee	21
Air Conditioning/Refrigeration	A.A.S. in Air Conditioning & Refrigeration	Lawton	OSU-Okmulgee	12
Automotive Service Technology	A.A.S. in Automotive Technology	Lawton	OSU-Okmulgee	7/11 (variable)
Automotive Collision Technology	A.A.S. in Automotive Technology	Lawton	OSU-Okmulgee	10

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Residential/Commercial Construction	A.A.S. in Construction Technology	Lawton	OSU-Okmulgee	14
Medium Heavy Duty Truck Service Technology	A.A.S. in Diesel and Heavy Equipment Technology	Lawton	OSU-Okmulgee	9
Drafting	A.A.S. in Computer Aided Design	Lawton	Cameron University	3
Electronics	A.A.S. in Telecommunication/Electronics	Lawton	Cameron University	4
Respiratory Care	A.A.S. in Applied Technology	Lawton	Cameron University	38
Security Guard	A.A.S. in Criminal Justice	Lawton	Cameron University	6
Radiography Technology	B.S. in Radiography Technology	Lawton	Midwestern University	42
Respiratory Care Technology	B.S. in Respiratory Care Technology	Lawton	Midwestern University	38
Automotive Service Technology	A.A.S. in Automotive Technology	Lawton	Pikes Peak Community College	30

Cooperative Agreements for GREEN COUNTRY TECHNOLOGY CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Applied AutoCAD	ETDG 1143 Intro to Design/Drafting	Green Country	OSU Okmulgee	3
CAD Customizing	ETDG 1193 Applied AutoCAD	Green Country	OSU Okmulgee	3
Technical Drawing	ETDG 1253 Technical Drawing	Green Country	OSU Okmulgee	3
Residential (TE)	ETDG 1333 Residential Design (THE)	Green Country	OSU Okmulgee	3
Architectural (TE)	ETDG 2683 Commercial Architecture	Green Country	OSU Okmulgee	3
3D Modeling & Intro to 3D Studio	ETDG 1313 3D Modeling & Rendering (TE)	Green Country	OSU Okmulgee	3
Piping Drafting & Design	ETDG 2223 Pipe Drafting & Design	Green Country	OSU Okmulgee	3
Engineering Graphics & Design/Drafting	**Engineering Graphics Technology**	**Green Country**	**OSU Okmulgee**	**21 hours**
EET 101	ETDE 1133 Intro to Electrical/Electronics	Green Country	OSU Okmulgee	3
EET 100 & 102	ETDE 1243 Electrical/Electronics Principles	Green Country	OSU Okmulgee	3

EET 103 & 104	ETDE 1263 Electrical/Electronics Practices	Green Country	OSU Okmulgee	3
EET 105 & 106	ETDE 1253 Electrical/Electronic Devices	Green Country	OSU Okmulgee	3
EET 107	ETDE 1373 Digital Systems	Green Country	OSU Okmulgee	3
EET 200 & 201	ETDE 1333 Industrial Electrical	Green Country	OSU Okmulgee	3
EET 202	ETDE 1343 Motors & Controls	Green Country	OSU Okmulgee	3
EET 203 & 204	EDTE 2113 Introduction to PLC's	Green Country	OSU Okmulgee	3
Electrical & Electronics Technology	**Electrical & Electronic Technology**	**Green Country**	**OSU Okmulgee**	**24 hours**
Manufacturing Technology 1st year	ETDM 1153 Intro to Manufacturing & ETDM 1413 Conventional Mfg Process & Tooling	Green Country	OSU Okmulgee	6
Manufacturing Technology 2nd year	ETDM 1116 Conventional Machining	Green Country	OSU Okmulgee	6
Manufacturing Technology	**Manufacturing Technology**	**Green Country**	**OSU Okmulgee**	**12 hours**

(TE) Technical Elective

Cooperative Agreements for HIGH PLAINS INSTITUTE OF TECHNOLOGY

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Business and Computer Technology	Information Technology-Network Engineering Option	Woodward	Northern Oklahoma College	42
Business and Computer Technology	Information Technology-Telecommunications Option	Woodward	Northern Oklahoma College	30
Business and Computer Technology	Information Technology-Web Development Option	Woodward	Northern Oklahoma College	42
Practical Nursing	Practical Nursing	Woodward	Northern Oklahoma College	16
Business and Computer Technology	Computer Information	Woodward	Panhandle State University	30
Construction Trades	Industrial Technology: Carpentry	Woodward	Panhandle State University	21
Medium/Heavy Duty Diesel Truck Technology	Industrial Technology: Diesel Technology	Woodward	Panhandle State University	30
Microcomputer Repair & Networking	Industrial Technology: Electronics-Microcomputer Focus	Woodward	Panhandle State University	30
Welding Technology	Industrial Technology: Welding	Woodward	Panhandle State University	30
Automotive Technology	Automotive	Woodward	Cowley County, KS	46
Business and	Business Technology	Woodward	Cowley County, KS	46

Information Technology				
Construction	Carpentry	Woodward	Cowley County, KS	46
Medium/Heavy Duty Diesel Truck Technology	Diesel	Woodward	Cowley County, KS	46
Health Careers Certification	Health Science	Woodward	Cowley County, KS	46
Marketing/Management	Marketing Management	Woodward	Cowley County, KS	46
Microcomputer Repair & Networking	Microcomputer Repair	Woodward	Cowley County, KS	46
Practical Nursing	Practical Nursing	Woodward	Cowley County, KS	46
Welding Technology	Welding	Woodward	Cowley County, KS	46
Automotive Technology	Automotive/Hevi Service Technology: Automotive Service	Woodward	OSU-Okmulgee	32
Medium/Heavy Duty Diesel Truck Technology	Automotive/Hevi Service Technology: Diesel and Heavy Equipment Technology	Woodward	OSU-Okmulgee	10
Business and Computer Technology	Business Technology	Woodward	OSU-Okmulgee	61
Construction Trades	Construction Technology: Construction Trades	Woodward	OSU-Okmulgee	13
Welding Technology	Construction Technology: Welding Technology	Woodward	OSU-Okmulgee	3
Business and Computer Technology	Information Technology: Information Technology	Woodward	OSU-Okmulgee	36
Microcomputer Repair	Microcomputer	Woodward	Southwestern Oklahoma	24

& Networking	Networking Microsoft		State University	

Cooperative Agreements for INDIAN CAPITAL TECHNOLOGY CENTERS

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Air Conditioning & Refrigeration	Applied Technology	Muskogee	Connors	29
Air Conditioning & Refrigeration	Applied Technology	Tahlequah	Connors	29
Air Conditioning & Refrigeration	Air Conditioning & Refrigeration	Muskogee	OSU-Okmulgee	15
Air Conditioning & Refrigeration	Air Conditioning & Refrigeration	Tahlequah	OSU-Okmulgee	12
Auto Body	Auto Collision Repair	Tahlequah	OSU-Okmulgee	10
Auto Body	Auto Collision Repair	Muskogee	OSU-Okmulgee	10
Auto Service	Applied Technology	Tahlequah	Connors	29
Auto Service	Applied Technology	Muskogee	Connors	29
Auto Service	Applied Technology	Sallisaw	Connors	29
Auto Service	Applied Technology	Stilwell	Connors	29
Auto Service	Auto Service Technology	Muskogee	OSU-Okmulgee	7
Auto Service	Auto Service Technology	Sallisaw	OSU-Okmulgee	7
Auto Service	Auto Service Technology	Stilwell	OSU-Okmulgee	7
Auto Service	Auto Service Technology	Tahlequah	OSU-Okmulgee	7
Business & Computer Technology	Business & Office Occupations	Muskogee	Bacone	21
Business & Computer Technology	Business & Office Occupations	Sallisaw	Bacone	21
Business & Computer Technology	Business & Office Occupations	Stilwell	Bacone	21
Business & Computer Technology	Business & Office Occupations	Tahlequah	Bacone	21
Business & Computer Technology	Applied Technology	Muskogee	Connors	29
Business & Computer Technology	Applied Technology	Sallisaw	Connors	29
Business & Computer Technology	Applied Technology	Stilwell	Connors	29
Business & Computer Technology	Applied Technology	Tahlequah	Connors	29
Business & Computer Technology	Office Administration	Sallisaw	Carl Albert	14

Business & Computer Technology	Business Technology	Muskogee	OSU-Okmulgee	37
Business & Computer Technology	Business Technology	Sallisaw	OSU-Okmulgee	37
Business & Computer Technology	Business Technology	Stilwell	OSU-Okmulgee	37
Business & Computer Technology	Business Technology	Tahlequah	OSU-Okmulgee	37
Carpentry	Construction Technology	Muskogee	OSU-Okmulgee	6
Carpentry	Construction Technology	Sallisaw	OSU-Okmulgee	6
Carpentry	Construction Technology	Stilwell	OSU-Okmulgee	6
Carpentry	Construction Technology	Tahlequah	OSU-Okmulgee	6

Cooperative Agreements for INDIAN CAPITAL TECHNOLOGY CENTERS

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Culinary Arts	Hospitality Services Technology	Muskogee	OSU-Okmulgee	8
Drafting	Applied Technology	Muskogee	Connors	29
Drafting	Engineering Graphics Tech	Muskogee	OSU-Okmulgee	21
Electrical Trades Technology	Applied Technology	Muskogee	Connors	29
Electrical Trades Technology	Electrical/Electronics Technology	Muskogee	OSU-Okmulgee	3
Electronics Technology	Applied Technology	Muskogee	Connors	29
Electronics Technology	Electrical/Electronics Technology	Muskogee	OSU-Okmulgee	27
Graphic Communications	Multi Media Graphic Comm.	Muskogee	OSU-Okmulgee	4
Health Science Technology	PN-RN	Muskogee	Connors	Credit Available
Health Science Technology	PN-RN	Sallisaw	Connors	Credit Available
Health Science Technology	PN-RN	Stilwell	Connors	Credit Available
Health Science Technology	PN-RN	Tahlequah	Connors	Credit Available
Information Technology	Applied Technology	Muskogee	Connors	29
Information Technology	Applied Technology	Sallisaw	Connors	29
Information Technology	Applied Technology	Tahlequah	Connors	29
Information Technology	Information Technology	Muskogee	OSU-Okmulgee	15

Information Technology	Information Technology	Sallisaw	OSU-Okmulgee	15
Information Technology	Information Technology	Tahlequah	OSU-Okmulgee	15
Machine Tool Technology	Applied Technology	Muskogee	Connors	29
Machine Tool Technology	Applied Technology	Sallisaw	Connors	29
Machine Tool Technology	Machine Tool Technology	Muskogee	OSU-Okmulgee	22
Machine Tool Technology	Machine Tool Technology	Sallisaw	OSU-Okmulgee	22
Masonry	Applied Technology	Stilwell	Connors	29
Radiologic Technology	Applied Technology	Muskogee	Connors	29
Welding Technology	Construction Technology	Muskogee	OSU-Okmulgee	3
Welding Technology	Construction Technology	Tahlequah	OSU-Okmulgee	3

Cooperative Agreements for KIAMICHI TECHNOLOGY CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Business Technology	Office Administration	Poteau, Spiro, Talihina	Carl Albert State College 242	9
Industrial Technology	Industrial Management Technology	Poteau	Carl Albert State College 242	12
Practical Nursing	Nursing AAS	Poteau, Talihina	Carl Albert State College 242	16
Business & Computer Tech.	Computer Information Systems	Stigler	Connors State College 140	69 hours
Air Conditioning/Refrigeration	Applied Technical Skills	McAlester, Poteau	Eastern Okla. State College 141	32
Automotive Collision Repair	Applied Technical Skills	Hugo	Eastern Okla. State College 141	32
Automotive Service Technology	Applied Technical Skills	Atoka, Durant, Idabel, McAlester, Poteau, Stigler, Talihina	Eastern Okla. State College 141	32
Carpentry	Applied Technical Skills	Atoka, McAlester, Poteau, Stigler, Talihina	Eastern Okla. State College 141	32
Child Care	Applied Technical Skills	Atoka, Hugo, McAlester	Eastern Okla. State College 141	32
Diesel mechanics	Applied Technical Skills	Hugo	Eastern Okla. State College 141	32
Drafting & Design	Applied Technical Skills	McAlester	Eastern Okla. State College 141	32

Health Science Technology	Applied Technical Skills	Durant, Hugo, Idabel, McAlester, Poteau, Talihina	Eastern Okla. State College 141	32
Masonry	Applied Technical Skills	Idabel	Eastern Okla. State College 141	32
Precision Machining Technology	Applied Technical Skills	McAlester	Eastern Okla. State College 141	32
Welding	Applied Technical Skills	Atoka, Idabel, McAlester, Poteau, Stigler, Spiro	Eastern Okla. State College 141	32
Industrial Tech	Applied Technical Skills	Durant, Idabel	Eastern Okla. State College 141	32
Business & Computer	Accounting	Durant	Grayson County TX	3
Business & Computer	Business Technology	Durant	Grayson County TX	12
Business & Computer	Computer Technology	Durant	Grayson County TX	12
Business & Computer	Office Technology	Durant	Grayson County TX	6
Business & Computer Technology	Computer Info Systems	Atoka, Durant, Hugo, Idabel, McAlester, Poteau, Spiro, Stigler, Talihina	Murray State College 142	15
Business & Computer Technology	Business/Office Technology	Atoka, Durant, Hugo, Idabel, McAlester, Poteau, Spiro, Stigler, Talihina	Murray State College 142	21
Business & Computer	Business Management	Atoka, Durant, Hugo,	Murray State College	18

Technology		Idabel, McAlester, Poteau, Spiro, Stigler, Talihina	142	
Carpentry	Applied Technology, Construction	Atoka, Idabel, McAlester, Poteau, Spiro, Stigler, Talihina	Murray State College 142	30
Child Care	Child Development	Atoka, Hugo, McAlester	Murray State College 142	12
Drafting & Design	Engineering Technology – Drafting	McAlester	Murray State College 142	12
Electronics	Engineering Technology – Electronics	Atoka, huygo, Poteau	Murray State College 142	12
Health Science Technology	Applied Technology, HST Option	Hugo, McAlester, Poteau, Talihina	Murray State College 142	30
Precision machining Tech – Metals	Machine Tool Processes	McAlester	Murray State College 142	14
Welding	Applied Tech, Welding Technology	Atoka, Idabel, McAlester, Poteau, Stigler, Spiro	Murray State College 142	30
Accounting	Accounting	Atoka, Durant, Hugo, Idabel, McAlester, Poteau, Spiro, Stigler, Talihina	OSU Okmulgee 151	12
Air Conditioning/Refrigeration	Air Conditioning & Refrigeration	McAlester, Poteau	OSU Okmulgee 151	12
Automotive Collision	Automotive Body	Hugo	OSU Okmulgee 151	6

Repair	Technology			
Automotive Service Technology	Automotive Service Technology	Atoka, Durant, Hugo, Idabel, McAlester, Poteau, Stigler, Talihina	OSU Okmulgee 151	6
Business Administration	Business Administration	Atoka, Durant, Hugo, Idabel, McAlester, Poteau, Spiro, Stigler, Talihina12	OSU Okmulgee 151	12
Carpentry	Construction Technology	Atoka, Ida12bel, McAlester, P3oteau, Spiro, Stigler, 12Talihina	OSU Okmulgee 151	12
Computer Systems Technology	Computer Systems Technology	Atoka, Durant, Hugo, Idabel, McAlester, Poteau, Spiro, Stigler, Talihina	OSU Okmulgee 151	12
Diesel Service Technology	Diesel & heavy Equip. Technology	Hugo	OSU Okmulgee 151	3
Drafting & Design	Design Drafting Technology	McAlester	OSU Okmulgee 151	12
Electronics	Electronic engineering Technology	Atoka, Hugo, Poteau	OSU Okmulgee 151	12
Electronics	Industrial Automation Technology	Atoka, Hugo, Poteau	OSU Okmulgee 151	12
Electronics	Industrial Electrical Technology	Atoka, Hugo, Poteau	OSU Okmulgee 151	12
Food Management	Food Service Mgmt (Culinary Arts)	Idabel	OSU Okmulgee 151	3
Legal Service Technology	Legal Secretarial Technology	Atoka, Durant, Hugo, Idabel, McAlester,	OSU Okmulgee 151	32

		Poteau, Spiro, Stigler, Talihina		
Medical Secretarial Technology	Medical Secreterial Technology	Atoka, Durant, Hugo, Idabel, McAlester, Poteau, Spiro, Stigler, Talihina	OSU Okmulgee 151	26
Office Technology	Multi media Graphics Technology	Atoka, Durant, Hugo, Idabel, McAlester, Poteau, Spiro, Stigler, Talihina	OSU Okmulgee 151	35
Precision Machining Technology	Machine Tool Technology	McAlester	OSU Okmulgee 151	24
EMT Basic	EMT Basic	Atoka, Durant, Hugo, Idabel, McAlester, Poteau, Spiro, Stigler, Talihina	OSU- OKC	7
EMT Intermediate	EMT Intermediate	Atoka, Durant, Hugo, Idabel, McAlester, Poteau, Spiro, Stigler, Talihina	OSU- OKC	8
Paramedic I	Paramedic I	Atoka, Durant, Hugo, Idabel, McAlester, Poteau, Spiro, Stigler, Talihina	OSU- OKC	9
Paramedic II	Paramedic II	Atoka, Durant, Hugo, Idabel, McAlester, Poteau, Spiro, Stigler,	OSU- OKC	9

		Talihina		
Paramedic III	Paramedic III	Atoka, Durant, Hugo, Idabel, McAlester, Poteau, Spiro, Stigler, Talihina	OSU- OKC	12
Paramedic IV	Paramedic IV	Atoka, Durant, Hugo, Idabel, McAlester, Poteau, Spiro, Stigler, Talihina	OSU- OKC	6
Rescue Operations		Atoka, Durant, Hugo, Idabel, McAlester, Poteau, Spiro, Stigler, Talihina	OSU- OKC	2

Cooperative Agreements for Meridian Technology Center

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Air Conditioning and Refrigeration Technology	Air Conditioning and Refrigeration	Meridian Technology Center	OSU-Okmulgee	Up to 9 hours
Business Technology - Medical Assist Option (pending Regents approval) - Office Management	Office Procedures Office Management	Meridian Technology Center	OSU-Okmulgee Northern Oklahoma College	Up to 32 hours Up to 20 hours
Construction Technology	Construction	Meridian Technology Center	OSU-Okmulgee	Up to 9 hours
Culinary Arts	Hospitality Services	Meridian Technology Center	OSU-Okmulgee	Up to 11 hours
Drafting	Engineering Graphics	Meridian Technology Center	OSU-Okmulgee	Up to 16 hours
Health Careers (Pending Regents approval)	Health Services Technology	Meridian Technology Center	Northern Oklahoma College	Up to 27 hours
Information Technology - Network Engineering - Programming - Web Design and Development	Information Technology	Meridian Technology Center	OSU-Okmulgee	 Up to 52 hours Up to 52 hours Up to 52 hours
Information Technology - Network Engineering - Programming	Information Technology	Meridian Technology Center	Northern Oklahoma College	 Up to 48 hours Up to 48 hours

- Web Design and Development				Up to 48 hours
Practical Nursing	Practical Nursing	Meridian Technology Center	Northern Oklahoma College	Up to 16 hours
Pre-Engineering Technology	Electrical and Electronics	Meridian Technology Center	OSU-Okmulgee	Up to 21 hours
Radiography	Radiography	Meridian Technology	Northern Oklahoma College	Up to 52 hours

Cooperative Agreements for METRO TECHNOLOGY CENTERS

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Auto Body Collision Repair	Automotive Technology: Non-structural Repair	South Bryant Campus	Oklahoma City Community College	28
Auto Body Collision Repair	Automotive Technology: Painting and Refinishing	South Bryant Campus	Oklahoma City Community College	28
Auto Service Technology	Automotive Technology: Automotive Technology Internship Program	South Bryant Campus	Oklahoma City Community College	28
Aviation Maintenance Technology	Aviation Maintenance Technology	Aviation Career Campus	Oklahoma City Community College	37
Aviation Maintenance Technology	Aviation Maintenance Technology: General	Aviation Career Campus	Oklahoma City Community College	27
Aviation Maintenance Technology	Aviation: Private Pilot	Aviation Career Campus	Oklahoma City Community College	4
Bilingual Customer Service I & II	Business: Administrative Office Technology-Administrative Office Specialist Option	Information Technology Services	Oklahoma City Community College	12
Clinical Laboratory Assisting	Medical Assisting: Course: Medical Terminology	Health Careers Center	Oklahoma City Community College	3
Computer Aided Drafting	Computer Aided Design: Manufacturing/Architectural	South Bryant Campus	Oklahoma City Community College	25
Customer/Administrative Services I & II	Business: Administrative Office Technology-Administrative Office Specialist Option	Information Technology Services	Oklahoma City Community College	12

Customer Services	Business: Administrative Office Technology-Administrative Office Specialist Option	Information Technology Services	Oklahoma City Community College	12
Graphic Design	Graphic Communication	South Bryant Campus	Oklahoma City Community College	21
Medical Administrative Services I & II	Medical Assistant	Information Technology Services	Oklahoma City Community College	21
Medical Assisting	Medical Assistant	Health Careers Center	Oklahoma City Community College	38
Adult Evening Program: Course: Medical Terminology	Medical Assistant	Health Careers Center	Oklahoma City Community College	3
Practical Nursing	Medical Assistant	Health Careers Center	Oklahoma City Community College	3
Print Design	Graphic Communication	Adult & Continuing Education Campus	Oklahoma City Community College	21
Radiography: Course: Medical Terminology	Medical Assistant	Health Careers Center	Oklahoma City Community College	3
Surgical Technology	Surgical Technology	Health Careers Center	Oklahoma City Community College	33
Accounting Services: Advanced Accounting	Computer Information Systems: Accounting	Information Technology Services	Oklahoma State University-OKC	9
Accounting Services: General Accounting	Computer Information Systems: Accounting	Information Technology Services	Oklahoma State University-OKC	21-30
Clinical Laboratory Assisting	MFP Course: Human Anatomy & Physiology	Health Career s Center	Oklahoma State University-OKC	5
Computer Aided Drafting/Design	Computer Aided Design: Manufacturing/Architectural	South Bryant Campus	Oklahoma State University-OKC	10
Computer Repair &	Technical Communications:	Information Technology	Oklahoma State	12

Networking Technology: Computer Technology	Telecommunications	Services	University-OKC	
Computer Repair & Networking Technology: Internetworking Technology	Technical Communications: Network	Information Technology Services	Oklahoma State University-OKC	15-24
Computer Repair & Networking Technology: Networking Technology	Technical Communications: Network	Information Technology Services	Oklahoma State University-OKC	16-24
Business & Industry Services: Computer Repair & Networking Technology Courses	Technical Communications	Economic Development Division	Oklahoma State University-OKC	3-13
Emergency Medical Services Technology: EMT Basic	Municipal Fire Protection: Emergency Medical Services	EMS Technology Center	Oklahoma State University-OKC	7
Emergency Medical Services Technology: EMT Paramedic	Municipal Fire Protection: Emergency Medical Services	EMS Technology Center	Oklahoma State University-OKC	36
Emergency Medical Services Technology: Basic ECG Interpretation	Municipal Fire Protection: Emergency Medical Services	EMS Technology Center	Oklahoma State University-OKC	2
Emergency Medical Services Technology: Human Anatomy & Physiology	Municipal Fire Protection: Emergency Medical Services	EMS Technology Center	Oklahoma State University-OKC	5
Medical Assisting: Human Anatomy & Physiology	MFP Course: Human Anatomy & Physiology	Health Career s Centers	Oklahoma State University-OKC	5
Practical Nursing: Human Anatomy & Physiology	MFP Course: Human Anatomy & Physiology	Health Careers Centers	Oklahoma State University-OKC	5
Radiography: Human Anatomy & Physiology	MFP Course: Human Anatomy & Physiology	Health Careers Centers	Oklahoma State University-OKC	5

Surgical Technology: Human Anatomy & Physiology	MFP Course: Human Anatomy & Physiology	Health Careers Centers	Oklahoma State University-OKC	5
Auto Body Collision Repair	Applied Technology	South Bryant Campus	Rose State College	15-25
Auto Service Technology	Applied Technology	South Bryant Campus	Rose State College	15-25
Carpentry: Finish Carpentry & Cabinetmaking I & II	Applied Technology	Adult and Continuing Education Campus	Rose State College	15-25
Early Childhood Development	Family Development	Child Care Center	Rose State College	13
Electrical Technology	Applied Technology	South Bryant Campus	Rose State College	15-25
Emergency Medical Services	Emergency Medical Technician: Basic EMT	EMS Technology Center	Rose State College	6
Emergency Medical Services	Emergency Medical Technician: Paramedic	EMS Technology Center	Rose State College	25
Graphic Design: Graphic Fundamentals	Applied Technology	South Bryant Campus	Rose State College	15-25
Graphic Design: Print Advertising	Applied Technology	South Bryant Campus	Rose State College	15-25
Heating, Ventilation, Air Conditioning & Refrigeration	Applied Technology	South Bryant Campus	Rose State College	15-25
Print Design	Applied Technology	Adult & Continuing Education	Rose State College	15-25
Welding	Applied Technology	South Bryant Campus	Rose State College	15-25

Cooperative Agreements for Mid-America Technology Center

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Automotive Service Technology	Applied Technology-Auto Service Technology Option	Mid-America Technology Center	Murray State College	30
Carpentry	Applied Technology-Construction Technology Option	Mid-America Technology Center	Murray State College	30
Computer Service Technology	CIS	Mid-America Technology Center	Murray State College	9
Computer Service Technology	Fast Track Program	Mid-America Technology Center	Murray State College	18
Electrical Trades	Engineering Technology-Electronics Option	Mid-America Technology Center	Murray State College	6
Health Science Technology	Applied Technology-Health Science Technology Option	Mid-America Technology Center	Murray State College	30
Information Technology	Administrative Office Assistant Option	Mid-America Technology Center	Murray State College	21
Information Technology	Business Management-Accounting Assistant Option	Mid-America Technology Center	Murray State College	12
Information Technology	Business Management-Computer Assistant Option	Mid-America Technology Center	Murray State College	15
Information Technology	Medical Office Administration	Mid-America Technology Center	Murray State College	18

Machine Tool Technology	Engineering Technology-Manufacturing Option	Mid-America Technology Center	Murray State College	11
Welding	Applied Technology-Welding Technology Option	Mid-America Technology Center	Murray State College	30
Horse Production & Management	Equine Science	Mid-America Technology Center	Redlands Community College	9
Articulation Agreements				
Drafting & Design	Drafting & Design Technology	Mid-America Technology Center	OSU-Oklahoma City	15
Horticulture	Horticulture Technology	Mid-America Technology Center	OSU-Oklahoma City	8
Law Enforcement & Related Careers	Police Science	Mid-America Technology Center	OSU-Oklahoma City	13
Air Conditioning & Heating	Air Conditioning/Heating	Mid-America Technology Center	OSU-Okmulgee	6
Automotive Service Technology	Auto Service Technology	Mid-America Technology Center	OSU-Okmulgee	8
Carpentry	Construction Technology	Mid-America Technology Center	OSU-Okmulgee	20
Computer Service Technology	Electronic Engineering Technology	Mid-America Technology Center	OSU-Okmulgee	12
Diesel Technology	Diesel & Heavy Equipment Technology	Mid-America Technology Center	OSU-Okmulgee	3
Drafting & Design	Drafting & Design Technology	Mid-America Technology Center	OSU-Okmulgee	15
Electrical Trades	Electronic Engineering Technology	Mid-America Technology Center	OSU-Okmulgee	9

Machine Tool Technology	Machine Tool Technology	Mid-America Technology Center	OSU-Okmulgee	16
Printing & Computer Graphics	Graphic Design	Mid-America Technology Center	OSU-Okmulgee	9

Cooperative Agreements for MID-DEL TECHNOLOGY CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Air-Condition & Refrig.	Heating, Vent. & Air	Midwest City	Rose State College	25
Automotive Services	Automotive Services	Midwest City	Rose State College	25
Automotive Collision	Automotive Collision	Midwest City	Rose State College	25
Bus. & Information Tech	Bus. & Computer Tech	Midwest City	Rose State College	12
Carpentry	Carpentry	Midwest City	Rose State College	25
Early Care & Education	Child Care	Midwest City	Rose State College	13
Graphic Communication	Commercial Printing	Midwest City	Rose State College	25
Industrial Electricity	Electrical Trades	Midwest City	Rose State College	25
Masonry	Masonry	Midwest City	Rose State College	25
Res. & Com. Piping Sys.	Residential Plumbing	Midwest City	Rose State College	25
Welding	Welding	Midwest City	Rose State College	25

MOORE NORMAN TECHNOLOGY CENTER Cooperative Agreements (School Year 2004 – 2005)

College credit is now awarded by Oklahoma City Community College, OSU Oklahoma City, Rose State College, and Seminole State College for students who wish to earn college credit toward an associate degree.

MNTC Program	A.A.S. Degree	Tech Center Campus	College	Credit Hours
Accounting	Accounting	MN	OSU OKC	4
Air Conditioning & Refrigeration	Applied Technology	MN	RSC	20 - 23
Automotive Service Technology	Automotive Technology	MN	OKCCC	41
Business Technology	Pending	MN	OKCCC	
Business Technology	Computer Information Systems	MN	OSU OKC	18
Career Exploration Education			OKCCC	3
Carpentry	Applied Technology	MN	RSC	20 - 25
Computer Aided Design/Drafting	Architectural Technology	MN	OSU OKC	15
Computer Aided Design/Drafting	Computer Aided Design/Drafting	MN	OKCCC	3
Database Administration	Technology, Database Management	MN	OKCCC	26
Early Care & Education of Children	Child Development	MN	OKCCC	12
Early Care & Education of Children	Family Services & Child Care	MN	RSC	13
Electrical & AIS	Manufacturing Technology, Computer Integrated Manufacturing/Robotics Emphasis	MN	OKCCC	47
Industrial Electronics	Electronics-General Emphasis	MN	OKCCC	32
Emergency Medical	Municipal Fire Protection, EMS	MN	OSU OKC	34

Technology	Emphasis			
Emergency Medical Technology	Emergency Medical Technician/Paramedic	MN	RSC	6
Entrepreneurship	Pending	MN		
Graphic Design	Graphic Communication	MN	OKCCC	18
Health Science Technology		MN	OKCCC	3
Leadership: Effective Planning		MN	OKCCC	3
Math for Health Careers		MN	OKCCC	3
Math for Technical Careers		MN	OKCCC	6
Medical Assisting	Medical Assistant	MN	OKCCC	37 - 42
Medical Coding		MN	OKCCC	3
Medical Terminology		MN	OKCCC	3
Medical Transcription		MN	OKCCC	3
Networking Technology	Technology, Networking Technology	MN	OKCCC	39
Practical Nursing	Nursing (110)	MN	SSC	16
Precision Machining	Manufacturing Technology, Computer Numeric Control Emphasis	MN	OKCCC	23
Software Applications	Pending	MN	OKCCC	
Surgical Technology	Surgical Technology	MN	OKCCC	30
Web Development/E-Commerce	Technology, Internet Technology	MN	OKCCC	35
Welding	Applied Technology	MN	RSC	19 – 22

Practical Nursing	MNTC Practical Nursing graduates qualify for direct articulation into Associate Degree nursing programs at some Oklahoma colleges, pending acceptance to the college and its nursing program. The number of credit hours awarded will be determined by the college. The MNTC PN graduate must ❖ have graduated within the previous five years, and ❖ have current Oklahoma licensure as a LPN. Most Oklahoma colleges will allow a LPN to take challenge examinations for college credit.

Cooperative Agreements for NORTHEAST TECHNOLOGY CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Automotive Collision	AAS	Afton, Pryor	Coffeyville Community College	47
Automotive Service	AAS	Afton, Pryor, Kansas	Coffeyville Community College	46
Business/Computer	AAS	Afton, Pryor, Kansas	Coffeyville Community College	52
Carpentry	AAS	Afton, Pryor	Coffeyville Community College	43
Cosmetology	AAS	Afton, Pryor	Coffeyville Community College	50
Culinary Arts	AAS	Afton, Pryor	Coffeyville Community College	48
Diesel	AAS	Afton, Pryor, Kansas	Coffeyville Community College	50
Electrical	AAS	Afton, Pryor, Kansas	Coffeyville Community College	52
Health Careers Certification	AAS	Afton, Pryor, Kansas	Coffeyville Community College	54
Masonry	AAS	Afton, Pryor	Coffeyville Community College	46
Welding	AAS	Afton, Pryor, Kansas	Coffeyville Community College	47
Automotive Collision	AAS	Afton, Pryor	Connors State College	29
Automotive Service	AAS	Afton, Pryor, Kansas	Connors State College	29
Business/Computer	AAS	Afton, Pryor, Kansas	Connors State College	29
Diesel	AAS	Afton, Pryor, Kansas	Connors State College	29
Marketing	AAS	Pryor	Connors State College	29

Masonry	AAS	Afton, Pryor	Connors State College	29
Welding	AAS	Afton, Pryor, Kansas	Connors State College	29
Automotive Collision	AAS	Afton, Pryor	Crowder College	16
Automotive Service	AAS	Afton, Pryor, Kansas	Crowder College	23
Carpentry	AAS	Afton, Pryor	Crowder College	12
Electrical	AAS	Afton, Pryor, Kansas	Crowder College	3
Welding	AAS	Afton, Pryor, Kansas	Crowder College	15
Practical Nursing	AS	Afton, Pryor, Kansas	Labette Community College	22
Business/Computer		Afton, Pryor, Kansas	Missouri Southern State University	9
Health Careers Certification		Afton, Pryor, Kansas	Missouri Southern State University	9
Automotive Collision	AAS	Afton, Pryor	Northeastern Oklahoma A&M College	27
Automotive Service	AAS	Afton, Pryor, Kansas	Northeastern Oklahoma A&M College	27
Business/Computer	AAS Admin. Office Support	Afton, Pryor, Kansas	Northeastern Oklahoma A&M College	27 12
Business Development	AAS	Afton, Pryor	Northeastern Oklahoma A&M College	6
Carpentry	AAS	Afton, Pryor	Northeastern Oklahoma A&M College	27
Child Development	AS	Afton, Pryor, Kansas	Northeastern Oklahoma A&M College	6
Cosmetology	AAS	Afton, Pryor	Northeastern Oklahoma A&M College	27
Culinary Arts	AAS	Afton, Pryor	Northeastern Oklahoma A&M College	27
Diesel	AAS	Afton, Pryor, Kansas	Northeastern Oklahoma	27

			A&M College	
Electrical	AAS Electronics	Afton, Pryor, Kansas	Northeastern Oklahoma A&M College	27 12
Health Careers Certification	Admin. Office Support, Medical Assistant	Afton, Pryor, Kansas	Northeastern Oklahoma A&M College	10
Marketing	AAS	Pryor	Northeastern Oklahoma A&M College	27
Masonry	AAS	Afton, Pryor	Northeastern Oklahoma A&M College	27
Practical Nursing	AS	Afton, Pryor, Kansas	Northeastern Oklahoma A&M College	13
Welding	AAS	Afton, Pryor, Kansas	Northeastern Oklahoma A&M College	27
Automotive Collision	AAS	Afton, Pryor	OSU-Okmulgee	8
Automotive Service	AAS	Afton, Pryor, Kansas	OSU-Okmulgee	6
Business/Computer	AAS	Afton, Pryor, Kansas	OSU-Okmulgee	51
Carpentry	AAS	Afton, Pryor	OSU-Okmulgee	11
Culinary Arts	AAS	Afton, Pryor	OSU-Okmulgee	3
Diesel	AAS	Afton, Pryor, Kansas	OSU-Okmulgee	9
Electrical	AAS	Afton, Pryor, Kansas	OSU-Okmulgee	11
Marketing	AAS	Pryor	OSU-Okmulgee	9
Masonry	AAS	Afton, Pryor	OSU-Okmulgee	5
Welding	AAS	Afton, Pryor, Kansas	OSU-Okmulgee	3
Automotive Collision	AAS	Afton, Pryor	Rogers State University	30
Automotive Service	AAS	Afton, Pryor, Kansas	Rogers State University	30
Business/Computer	AAS	Afton, Pryor, Kansas	Rogers State University	15
Diesel	AAS	Afton, Pryor, Kansas	Rogers State University	30
Electrical	AAS	Afton, Pryor, Kansas	Rogers State University	30
Welding	AAS	Afton, Pryor, Kansas	Rogers State University	30

Cooperative Agreements for NORTHWEST TECHNOLOGY CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Health Careers Certification	Health Services	Alva	Northern Oklahoma College	27
Computer Repair & Networking	Information Technology-Network Engineering Option	Alva NW	Northern Oklahoma College	42
E-commerce and Web Services	Information Technology-Web Development Option	Alva NW	Northern Oklahoma College	42
Business and Information Technology	Office Management	Alva NW	Northern Oklahoma College	24
Business and Information Technology	Office Management: Medical Option	Alva NW	Northern Oklahoma College	24
Automotive Collision Technology	Technology: Automotive Collision Technology	Alva NW	Cowley County, KS	46
Automotive Technology	Technology: Automotive Technology	Alva NW	Cowley County, KS	46
Business and Information Technology	Technology: Business and Computer Technology	Alva NW	Cowley County, KS	46
E-commerce and Web Services	Computer Web Services	Alva NW	Cowley County, KS	46
Health Careers Certification	Technology: Health Careers Certification	Alva NW	Cowley County, KS	46
Automotive Technology	Automotive Technology: Automotive Service Technology	Alva NW	OSU-Okmulgee	32
Automotive	Automotive Technology:	Alva NW	OSU-Okmulgee	10

Collision Technology	Automotive Collision Technology			
Computer Repair & Networking	Information Technology: Computer Repair and Networking	Alva NW	OSU-Okmulgee	40
Business & Information Technology	Business Technology	ALVA NW	OSU-Okmulgee	61
E-Commerce & Web Services	Information Technology: E-commerce	Alva NW	OSU-Okmulgee	23
Health Careers Certification	Health Services	Fairview NW	Northern Oklahoma College	27
Interactive Media	Information Technology-Interactive Media	Fairview NW	Northern Oklahoma College	42
None	Information Technology: Network Engineering Option	Fairview	Northern Oklahoma College	42
E-Commerce and Web Services	Information Technology-Web Development Option	Fairview NW	Northern Oklahoma College	42
Business and Information Technology	Office Management	Fairview NW	Northern Oklahoma College	24
Business and Information Technology: Medical Option	Office Management: Medical Option	Fairview NW	Northern Oklahoma College	24
Automotive Technology	Technology: Automotive Technology	Fairview NW	Cowley County, KS	46
Business and Computer Technology	Technology: Business and Computer Technology	Fairview NW	Cowley County, KS	46

E-Commerce and Web Services	Computer Web Services	Fairview NW	Cowley County, KS	46
Health Careers Certification	Technology: Health Careers Certification	Fairview NW	Cowley County, KS	46
Welding	Technology: Welding	Fairview NW	Cowley County, KS	46
Automotive Services Technology	Automotive Technology: Automotive Service Technology	Fairview NW	OSU-Okmulgee	32
E-Commerce and Web Services	Information Technology: E-commerce	Fairview NW	OSU-Okmulgee	23
Interactive Media	Information Technology: Interactive Media	Fairview NW	OSU-Okmulgee	tbd

Cooperative Agreements for PIONEER TECHNOLOGY CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Child Care (CDA training)	Child Care (MOU)	Ponca City	Northern Oklahoma College	6
Health Careers Certification	Health Services	Ponca City	Northern Oklahoma College	27
Mechanical Technology	Industrial Technology-Mechanical Technology Option	Ponca City	Northern Oklahoma College	16
Business and Information Technology Education	Information Technology-Network Engineering Option	Ponca City	Northern Oklahoma College	42
Business and Information Technology Education	Information Technology-Web Development Option	Ponca City	Northern Oklahoma College	42
Business and Information Technology Education	Office Management	Ponca City	Northern Oklahoma College	24
Medical Assisting	Office Management-Medical Option	Ponca City	Northern Oklahoma College	24
Practical Nursing	Practical Nursing	Ponca City	Northern Oklahoma College	16
Respiratory Care	Respiratory Care	Ponca City	Northern Oklahoma College	49
Automotive Technology	Technology: Automotive Service Technology	Ponca City	Cowley County, KS	46
Business and Information Technology Education	Technology: Business and Computer Technology	Ponca City	Cowley County, KS	46

Child Care	Technology: Child Care	Ponca City	Cowley County, KS	46
Machine Tool Technology	Technology: CNC	Ponca City	Cowley County, KS	46
Construction Technology	Technology: Construction Technology	Ponca City	Cowley County, KS	46
Cosmetology	Technology: Cosmetology	Ponca City	Cowley County, KS	46
Food Service	Technology: Food Services	Ponca City	Cowley County, KS	46
Health Careers Certification	Technology: Health Science Technology	Ponca City	Cowley County, KS	46
None	Technology: Horticulture	Ponca City	Cowley County, KS	46
Medical Assisting	Technology: Medical Assisting	Ponca City	Cowley County, KS	46
Machine Tool Technology	Technology: Precision Machining/Machine Tools	Ponca City	Cowley County, KS	46
Welding Technology	Technology: Welding	Ponca City	Cowley County, KS	46
Practical Nursing	Practical Nursing	Ponca City	Cowley County, KS	46
Respiratory Care	Respiratory	Ponca City	Cowley County, KS	46
Automotive Technology	Automotive Technology	Ponca City	OSU-Okmulgee	31
Business and Information Technology Education	Business Technology	Ponca City	OSU-Okmulgee	39
Construction Technology	Construction Technology	Ponca City	OSU-Okmulgee	18
Food Service	Food Service	Ponca City	OSU-Okmulgee	11
Business and	Information Technology	Ponca City	OSU-Okmulgee	16

Information Technology Education				
Machine Tool Technology	Machine Tool Technology	Ponca City	OSU-Okmulgee	21
Mechanical Technology	Mechanical Technology	Ponca City	OSU-Okmulgee	18

Cooperative Agreements for PONTOTOC TECHNOLOGY CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Construction Technology	Associate in Applied Science in Tech Studies	Pontotoc Technology Center – Ada, OK	Murray State College Tishomingo, OK	30
Automotive Service Technology	Associate in Applied Science in Tech Studies	Pontotoc Technology Center – Ada, OK	Murray State College Tishomingo, OK	30
Health Science Technology	Associate in Applied Science in Tech Studies	Pontotoc Technology Center – Ada, OK	Murray State College Tishomingo, OK	30
Business Management/ Business Office Technology	Associate in Business Management	Pontotoc Technology Center – Ada, OK	Murray State College Tishomingo, OK	30

Cooperative Agreements for RED RIVER TECHNOLOGY CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Business Information Technology	Data Processing	Duncan	Cameron University	3
Computer-Aided Drafting	Computer-Aided Design	Duncan	Cameron University	3
Electronics	Telecommunication Electronics	Duncan	Cameron University	3
Business/Information Technology	Computer Information Systems Business/Office Tech/Administrative Assistant Legal Office Administrative Option Medical Office Administrative Option Business Management – Accounting Assistant Business Management – Computer Assistant Business Management – Legal Assistant	Duncan	Murray State College at Tishomingo	6 15 15 9 12 15 9
Computer-Aided	Machine	Duncan	Murray State College at	6

Drafting	Drafting/Advanced Drafting		Tishomingo	
Electronics	Engineering Technology – Electronics Information Technology	Duncan	Murray State College at Tishomingo	17 up to 12 credit hrs based on CCNA certification
LPN (Licensed Practical Nurse)	RN (Registered Nurse) 2-year	Duncan	Murray State College at Tishomingo	6
Precision Machine Technology	Engineering Technology –Metals	Duncan	Murray State College at Tishomingo	9
Welding	Engineering Technology –Manufacturing Welding Technology	Duncan	Murray State College at Tishomingo	3 30
Health Science Technology	Health Science Technology	Duncan	Murray State College at Tishomingo	30
Computer Repair (Post-Secondary only)	Information Technology	Duncan	Murray State College at Tishomingo	Up to 18 credit hrs. based on certifications
Carpentry	Construction Trades Technology	Duncan	Murray State College at Tishomingo	30
Business Information Technology	Computer Information Systems	Duncan	Oklahoma State University –Oklahoma City	14
Business Information Technology	Information Processing	Duncan	Oklahoma State University – Okmulgee	6
Auto Collision Technology	Four – 2 hour courses	Duncan	Oklahoma State University – Okmulgee	8

Computer-Aided Drafting	Engineering Drawing, Machine Drafting and Design	Duncan	Oklahoma State University- Okmulgee	12
Electronics Technology	Direct and Alternating Current Circuit Analysis, Digital Electronics, and Electrical Amplifiers	Duncan	Oklahoma State University – Okmulgee	12
HVAC (Heating, Ventilation & Air Conditioning)	Fundamentals of Refrigeration and Appliance	Duncan	Oklahoma State University - Okmulgee	9
Auto Collision Technology	11 different classes	Duncan	Western Oklahoma State College at Altus	39
Auto Service Technology	10 different classes	Duncan	Western Oklahoma State College at Altus	37
Carpentry	12 different classes	Duncan	Western Oklahoma State College at Altus	38
Computer-Aided Drafting	10 different classes	Duncan	Western Oklahoma State College at Altus	37
Diesel Service Technology	9 different classes	Duncan	Western Oklahoma State College at Altus	
Electronic	11 different classes	Duncan	Western Oklahoma State College at Altus	38
HVAC (Heating, Ventilation, & Air Conditioning)	11 different classes	Duncan	Western Oklahoma State College at Altus	38
LPN (Licensed Practical Nurse)	2 different classes – RN 2-years	Duncan	Western Oklahoma State College at Altus	18
Precision Machine Technology	9 different classes	Duncan	Western Oklahoma State College at Altus	37

Welding	13 different Classes	Duncan	Western Oklahoma State College at Altus	39
Computer-Aided Drafting	Up to 6 different classes	Duncan	American Council on Education*	18
Business/Information Technology	Up to 8 different classes	Duncan	American Council on Education*	17
Auto Collision Technology	Up to 7 different classes	Duncan	American Council on Education*	19

*The following Oklahoma institutions have agreed to accept ACE credit recommendation at the discretion of their institution's overall policy and by specific department or school where acceptance of the credit recommendations have been approved: OU, OU-Health Sciences Center, OSU, OSU-OKC, Cameron, Rose State, Southern Nazarene, Mid-American Bible, OBU, St Gregory's, SWOSU-Sayre, SEOSU, Bacone, Murray State College, Western Oklahoma state, ECU, Bartlesville Wesleyan, SWOSU, ORU, NEO, Tulsa Community College, Seminole State, Rogers State University.

Cooperative Agreements for SOUTHERN OKLAHOMA TECH CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Air Conditioning and Refrigeration	Air Conditioning and Refrigeration	Ardmore/SOTC	OSU-Okmulgee	Up to 12 available
Automotive Body Technology	Automotive Body Technology	Ardmore/SOTC	OSU-Okmulgee	Up to 10 available
Automotive Service Technology	Automotive Service Technology	Ardmore/SOTC	OSU-Okmulgee	Up to 6 available
Auto Service Technology	Auto Service Technology Applied Technologies	Ardmore/SOTC	Murray State	Up to 30 available
Business and Computer Technology	Business Technology	Ardmore/SOTC	OSU-Okmulgee	Up to 37 available
Business and Computer Technology	Computer Information Systems	Ardmore/SOTC	Murray State	Up to 24 available
Business and Computer Technology	Bus. Management/Bus. Office Technology	Ardmore/SOTC	Murray State	Up to 24 available
Child Development	Child Development	Ardmore/SOTC	Murray State	Up to 12 available
Construction Technology	Construction Technology	Ardmore/SOTC	OSU-Okmulgee	Up to 22 available
Construction Technology	Construction Technology Applied Technologies	Ardmore/SOTC	Murray State	Up to 30 available
Diesel Technology	Diesel and Heavy Equipment Technology	Ardmore/SOTC	OSU-Okmulgee	Up to 9 available
CADD Technology	Engineering Graphics Technology	Ardmore/SOTC	OSU-Okmulgee	Up to 24 available
Pre-Engineering Technology	Electrical & Electronics Technology	Ardmore/SOTC	OSU-Okmulgee	Up to 15 available

Telecommunications Technology	Electrical & Electronics Technology	Ardmore/SOTC	OSU-Okmulgee	Up to 15 available
Training Alliance of Southern Oklahoma	Electrical & Electronics Technology	Ardmore/SOTC	OSU-Okmulgee	Up to 15 available
CADD Technology	Engineering Technology	Ardmore/SOTC	Murray State	Up to 9 hours
Health Science Technology-I and II	Health Science Applied Technologies	Ardmore/SOTC	Murray State	Up to 30 available
Welding Technology	Welding Technology Applied Technologies	Ardmore/SOTC	Murray State	Up to 30 available
Welding Technology	Construction Technology	Ardmore/SOTC	OSU-Okmulgee	Up to 3 available

Cooperative Agreements for SOUTHWEST TECHNOLOGY CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Automotive Technology	AAS in Applied Tech	Altus	Western Oklahoma State College	38
BCT/ CSR	AAS in Office Systems (Office General Assistant)	Altus	Western Oklahoma State College	15
BCT/Med	AAS in Office Systems (Office Medical Assistant)	Altus	Western Oklahoma State College	15
Networking and PC Repair	AAS in PC Hardware/Networking Specialist	Altus	Western Oklahoma State College	19
Construction Trades	AAS in Applied Tech	Altus	Western Oklahoma State College	35
Simulator Maintenance Technology	AAS in Applied Tech	Altus	Western Oklahoma State College	35
Aviation and Aerospace Technology	AAS in Aviation (Aviation Mech. Option)	Altus	Western Oklahoma State College	30-34
Electronics	AAS in Applied Tech	Altus	Western Oklahoma State College	30

Cooperative Agreements for TRI COUNTY TECHNOLOGY CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Automotive Service Technology	Automotive Technology – A.A.S.	Bartlesville	Coffeyville Community College, Coffeyville, KS	35
Automotive Collision Repair	Automotive Technology – A.A.S.	Bartlesville	Coffeyville Community College, Coffeyville, KS	35
Applied Welding Technology	Manufacturing Technology – A.A.S.	Bartlesville	Coffeyville Community College, Coffeyville, KS	35
Business & Computer Technology `	Business & Marketing – A.A.S.	Bartlesville	Coffeyville Community College, Coffeyville, KS	35
Commercial Printing & Graphic Design	Business & Marketing– A.A.S	Bartlesville	Coffeyville Community College, Coffeyville, KS	35
Computer Aided Drafting	Manufacturing Technology – A.A.S.	Bartlesville	Coffeyville Community College, Coffeyville, KS	35
Cosmetology	Business & Marketing– A.A.S.	Bartlesville	Coffeyville Community College, Coffeyville, KS	35
Culinary Arts	Business & Marketing – A.A.S.	Bartlesville	Coffeyville Community College, Coffeyville, KS	35
Early Care & Education	Child Development – A.A.S.	Bartlesville	Coffeyville Community College, Coffeyville, KS	35
Dental Assistant	Business & Marketing or Nursing – A.A.S.	Bartlesville	Coffeyville Community College, Coffeyville, KS	35
Health Science Technology	Nursing – A.A.S.	Bartlesville	Coffeyville Community College, Coffeyville, KS	35
Information Technology	Information Technology – A.A.S.	Bartlesville	Coffeyville Community College, Coffeyville, KS	35
Machine Tool Technology	Manufacturing Technology – A.A.S.	Bartlesville	Coffeyville Community College, Coffeyville, KS	35
Marketing Management	Business & Marketing –	Bartlesville	Coffeyville Community	35

	A.A.S.		College, Coffeyville, KS	
Practical Nursing	Nursing – A.A.S.	Bartlesville	Coffeyville Community College, Coffeyville, KS	35
Automotive Service Technology	B.S. in Business Administration, B.S. in Management, B.S. in Nursing or A.A. in Business, Certificate in Human Resources	Bartlesville	Oklahoma Wesleyan University, Bartlesville, OK	30
Automotive Collision Repair	B.S. in Business Administration, B.S. in Management, B.S. in Nursing or A.A. in Business, Certificate in Human Resources	Bartlesville	Oklahoma Wesleyan University, Bartlesville, OK	30
Applied Welding Technology	B.S. in Business Administration, B.S. in Management, B.S. in Nursing or A.A. in Business, Certificate in Human Resources	Bartlesville	Oklahoma Wesleyan University, Bartlesville, OK	30
Business & Computer Technology `	B.S. in Business Administration, B.S. in Management, B.S. in Nursing or A.A. in Business, Certificate in Human Resources	Bartlesville	Oklahoma Wesleyan University, Bartlesville, OK	30
Commercial Printing & Graphic Design	B.S. in Business Administration, B.S. in Management, B.S. in Nursing or A.A. in	Bartlesville	Oklahoma Wesleyan University, Bartlesville, OK	30

	Business, Certificate in Human Resources			
Computer Aided Drafting	B.S. in Business Administration, B.S. in Management, B.S. in Nursing or A.A. in Business, Certificate in Human Resources	Bartlesville	Oklahoma Wesleyan University, Bartlesville, OK	30
Cosmetology	B.S. in Business Administration, B.S. in Management, B.S. in Nursing or A.A. in Business, Certificate in Human Resources	Bartlesville	Oklahoma Wesleyan University, Bartlesville, OK	30
Culinary Arts	B.S. in Business Administration, B.S. in Management, B.S. in Nursing or A.A. in Business, Certificate in Human Resources	Bartlesville	Oklahoma Wesleyan University, Bartlesville, OK	30
Early Care & Education	B.S. in Business Administration, B.S. in Management, B.S. in Nursing or A.A. in Business, Certificate in Human Resources	Bartlesville	Oklahoma Wesleyan University, Bartlesville, OK	30
Dental Assistant	B.S. in Business Administration, B.S. in Management, B.S. in Nursing or A.A. in Business, Certificate in	Bartlesville	Oklahoma Wesleyan University, Bartlesville, OK	30

	Human Resources			
Health Science Technology	B.S. in Business Administration, B.S. in Management, B.S. in Nursing or A.A. in Business, Certificate in Human Resources	Bartlesville	Oklahoma Wesleyan University, Bartlesville, OK	30
Information Technology	B.S. in Business Administration, B.S. in Management, B.S. in Nursing or A.A. in Business, Certificate in Human Resources	Bartlesville	Oklahoma Wesleyan University, Bartlesville, OK	30
Machine Tool Technology	B.S. in Business Administration, B.S. in Management, B.S. in Nursing or A.A. in Business, Certificate in Human Resources	Tri County Technology Center	Oklahoma Wesleyan University, Bartlesville, OK	30
Marketing Management	B.S. in Business Administration, B.S. in Management, B.S. in Nursing or A.A. in Business, Certificate in Human Resources	Tri County Technology Center	Oklahoma Wesleyan University, Bartlesville, OK	30
Practical Nursing	B.S. in Business Administration, B.S. in Management, B.S. in Nursing or A.A. in Business, Certificate in Human Resources	Bartlesville	Oklahoma Wesleyan University, Bartlesville, OK	30

Computer Aided Drafting	Engineering Graphics	Bartlesville	Oklahoma State University-Okmulgee	12
Business & Computer Technology	Business & Office Occupations or Information Technology	Bartlesville	Oklahoma State University-Okmulgee	up to 37
Information Technology	Information Technology	Bartlesville	Oklahoma State University-Okmulgee	10
Culinary Arts	Culinary Arts	Bartlesville	Oklahoma State University-Okmulgee	11
Automotive Collision Repair Technology	Automotive Collision Technology	Bartlesville	Oklahoma State University-Okmulgee	10
Automotive Service Technology	Automotive Technology	Bartlesville	Oklahoma State University-Okmulgee	5 or 6
Applied Welding Technology	A.A.S. in Applied Technology or Bachelor of Technology in Applied Technology	Bartlesville	Rogers State University, Claremore & Bartlesville, OK	30
Automotive Service Technology	A.A.S. in Applied Technology or Bachelor of Technology in Applied Technology	Bartlesville	Rogers State University, Claremore & Bartlesville, OK	30
Commercial Printing & Graphic Design	A.A.S. in Applied Technology or Bachelor of Technology in Applied Technology	Bartlesville	Rogers State University, Claremore & Bartlesville, OK	30
Computer Aided Drafting	A.A.S. in Applied Technology or Bachelor of Technology in Applied Technology	Bartlesville	Rogers State University, Claremore & Bartlesville, OK	30
Culinary Arts	A.A.S. in Applied	Bartlesville	Rogers State University,	30

	Technology or Bachelor of Technology in Applied Technology		Claremore & Bartlesville, OK	
Marketing Management	A.A.S. in Applied Technology or Bachelor of Technology in Applied Technology, A.A. in Business Administration or Liberal Arts, B.A. in Liberal Arts	Bartlesville	Rogers State University, Claremore & Bartlesville, OK	30

Cooperative Agreements for Tulsa Technology Center

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Tulsa Technology Center & Tulsa Community College Cooperative Agreements				
Aviation Maintenance Technology	Aviation Sciences	Tulsa Technology Center - Riverside	Tulsa Community College	27
Laboratory Sciences Technology	Chemical Laboratory Technology	Tulsa Technology Center - Riverside	Tulsa Community College	33
Child Development Associate	Child Development and Family Relations	Tulsa Technology Center Peoria	Tulsa Community College	9
Center Administration and Management	Child Development and Family Relations	Tulsa Technology Center Peoria	Tulsa Community College	4
Child Development - School Age Specialist	Child Development and Family Relations-School Age Certificate	Tulsa Technology Center Peoria	Tulsa Community College	4
Early Childhood Development	Child Development and Family Relations	Tulsa Technology Center Peoria	Tulsa Community College	9
Accounting	Computer Information Systems	Tulsa Technology Center Peoria	Tulsa Community College	4
Advanced Computer Applications	Computer Information Systems	Tulsa Technology Center –BA	Tulsa Community College	8
	Computer Information		Tulsa Community College	8

Administrative Support & Management	Systems	Tulsa Technology Center Peoria		
Certified Computer and Web Foundations	Computer Information Systems	Tulsa Technology Center –BA	**Tulsa Community College**	**6**
Certified Network Associate (CCNA)	Computer Information Systems	Tulsa Technology Center - Riverside	**Tulsa Community College**	**12**
Computer Network Technology	Computer Information Systems	Tulsa Technology Center Peoria	**Tulsa Community College**	**6**
Database Administration	Computer Information Systems	Tulsa Technology Center –BA	**Tulsa Community College**	**12**
Health Information Technology	Computer Information Systems	Tulsa Technology Center Peoria	**Tulsa Community College**	**9**

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Network Systems Administration	Computer Information Systems	Tulsa Technology Center Peoria	**Tulsa Community College**	**12**
Web Design	Computer Information Systems	Tulsa Technology Center –BA	**Tulsa Community College**	**8**
Web Enterprise Development	Computer Information Systems	Tulsa Technology Center –BA	**Tulsa Community College**	**7**
Web Network Administration	Computer Information Systems	Tulsa Technology Center –BA	**Tulsa Community College**	**7**
Web Programming	Computer Information Systems	Tulsa Technology Center –BA	**Tulsa Community College**	**7**
Website Design	Computer Information Systems	Tulsa Technology Center –BA	**Tulsa Community College**	**7**
Dental Assisting/Assistant	Dental Assisting	Tulsa Technology Center –Lemley	**Tulsa Community College**	**20**
Technical Drafting & Design Technology	Design Engineering Technology	Tulsa Technology Center –Lemley	**Tulsa Community College**	**6**
Industrial Maintenance - First Class Stationary Engineers (Bama Opt)	Electronics Technology - Industrial Maintenance	Tulsa Technology Center - BITS	**Tulsa Community College**	**21**
Emergency Medical Technology	Emergency Medical Technology	Tulsa Technology Center -Peoria	**Tulsa Community College**	**32**
Food Manufacturing Technology (Bama	Food Manufacturing Technology (Bama	Tulsa Technology Center - BITS	**Tulsa Community College**	**4**

Option)	Option)			
Graphics and Imaging Technologies	Graphics and Imaging Technologies	Tulsa Technology Center –Lemley	**Tulsa Community College**	**32**
Dental Assisting/Assistant, EMT paramedic, Medical Assisting/Assistant, Practical Nursing, Radiologic Technology, Surgical Technology	Healthcare Administration	Tulsa Technology Center -Lemley, Peoria Riverside,	**Tulsa Community College**	**12**
Horticulture: Turf /Landscape Technology	Landscape and Floral Design	Tulsa Technology Center –Lemley	**Tulsa Community College**	**15**
Manufacturing Workplace Leadership	Manufacturing Workplace Leadership	Tulsa Technology Center -BITS	**Tulsa Community College**	**15**

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Automotive, Aviation, Avionics, Cosmetology, Dental Assisting, EMT Paramedics, Graphics & Imaging Technologies, Medical Assisting,/Assistant, Medium/Heavy-Duty Truck Service, Practical Nursing, Radiologic Tech, Surgical Technology	General Management Option	Tulsa Technology Center: Lemley, BA, Peoria Peoria & Riverside	**Tulsa Community College**	**15**
Apparel Design and Manufacturing	Marketing	Tulsa Technology Center –Lemley	**Tulsa Community College**	**6**
Business Management & Entrepreneurship	Marketing	Tulsa Technology Center –Lemley	**Tulsa Community College**	**6**
Marketing & E-Commerce	Marketing	Tulsa Technology Center –Lemley	**Tulsa Community College**	**6**
Health Science Technology	Medical Assistant	Tulsa Technology Center –Lemley	**Tulsa Community College**	**3**
Medical Assisting/Assistant	Medical Assistant	Tulsa Technology Center –Lemley	**Tulsa Community College**	**6**
Nursing & Health-Related Options	Medical Assistant	Tulsa Technology Center –Lemley	**Tulsa Community College**	**3**

Craftsmanship	Numerical Control/Machinist Technology	Tulsa Technology Center –BA	**Tulsa Community College**	**25**
Numerical Control/Machinist Technology	Numerical Control/Machinist Technology	Tulsa Technology Center –BA	**Tulsa Community College**	**10**
Numerical Control/Machinist Technology (Whirlpool Option)	Numerical Control/Machinist Technology	Tulsa Technology Center	**Tulsa Community College**	**3**
Surgical Technology	Surgical Technology	Lemley Tulsa Technology Center – Lemley	**Tulsa Community College**	**33**
Internet & Network Security	Telecommunications	Tulsa Technology Center –Riverside	**Tulsa Community College**	**9**
Cisco Certified Network Assoc (CCNA)	Telecommunications	Tulsa Technology Center - Riverside	**Tulsa Community College**	**10**

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Cisco Certified Network Professional (CCNP)	Telecommunications	Tulsa Technology Center –Riverside	**Tulsa Community College**	**12**
Telecommunications	Telecommunications	Tulsa Technology Center –Riverside	**Tulsa Community College**	**10**
Wireless	Telecommunications	Tulsa Technology Center –Riverside	**Tulsa Community College**	**7**

Tulsa Technology Center & Rogers State University Cooperative Agreements				
Tech Center Program	**College Program**	**Tech Center Campus**	**College Campus**	**College Credit Hours**
Cisco Certified Network Associate /CCNA	Business, Information and Engineering Technologies	Tulsa Technology Center –Riverside	**Rogers State University**	**15**
Cisco Certified Network Associate/CCNP	Business, Information and Engineering Technologies	Tulsa Technology Center -Riverside	**Rogers State University**	**15**
Computer Network Technology	Business, Information and Engineering Technologies	Tulsa Technology Center -Riverside	**Rogers State University**	**15**
Web Network Administration	Business, Information and Engineering Technologies	Tulsa Technology Center -Riverside	**Rogers State University**	**15**
Web Design	Business, Information, and Engineering Technologies	Tulsa Technology Center -Peoria	**Rogers State University**	**15**
Certified Computer Web Foundation	Business, Information, and Engineering Technologies	Tulsa Technology Center –BA	**Rogers State University**	**15**
Web Programming	Business, Information, and Engineering Technologies	Tulsa Technology Center –BA	**Rogers State University**	**15**

Website Design	Business, Information, and Engineering Technologies	Tulsa Technology Center –BA	**Rogers State University**	**15**
Health Information Technology	Business, Information, and Engineering Technologies	Tulsa Technology Center –BA	**Rogers State University**	**15**

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Internet and Network Security	Business, Information, and Engineering Technologies	Tulsa Technology Center –BA	**Rogers State University**	**15**
Telecommunications Technology	Business, Information, and Engineering Technologies	Tulsa Technology Center- Peoria	**Rogers State University**	**15**
Wireless Technologies	Business, Information and Engineering Technologies	Tulsa Technology Center –Riverside	**Rogers State University**	**15**
Carpentry Technology Option	Construction Management Option	Tulsa Technology Center –Lemley	**Rogers State University**	**30**
Electrical Technology Option	Construction Management Option	Tulsa Technology Center -Peoria	**Rogers State University**	**30**
Machining Technology	Manufacturing Management	Tulsa Technology Center –BA	**Rogers State University**	**30**
Major Appliance Technology	Manufacturing Management	Tulsa Technology Center -Peoria	**Rogers State University**	**30**
Manufacturing Technology (BITS)	Manufacturing Management	Tulsa Technology Center - Port of Catoosa	**Rogers State University**	**30**
Welding Technology	Manufacturing Management Option	Tulsa Technology Center: Lemley, Peoria	**Rogers State University**	**30**
Dental Assisting/	Public and Health	Tulsa Technology	**Rogers State University**	**30**

Assistant	Services	Center –Lemley		
Laboratory Sciences Technology I & II	Public and Health Services	Tulsa Technology Center -Riverside	**Rogers State University**	**30**
Practical Nursing	Public and Health Services	Tulsa Technology Center –Lemley	**Rogers State University**	**30**
Radiologic Technology	Public and Health Services	Tulsa Technology Center –Lemley	**Rogers State University**	**30**
Surgical Technology	Public and Health Services	Tulsa Technology Center –Lemley	**Rogers State University**	**30**
Medium/Heavy Duty Truck Service Technology	Transportation Management	Tulsa Technology Center –Lemley	**Rogers State University**	**30**

Tulsa Technology Center & Oklahoma State University-Okmulgee Cooperative Agreements				
Tech Center Program	**College Program**	**Tech Center Campus**	**College Campus**	**College Credit Hours**
Heating and Air Conditioning (HVAC)	Air Conditioning & Refrigeration	Tulsa Technology Center –Lemley	**OSU-Okmulgee**	**6**
Collision Repair Technology	Automotive Technology	Tulsa Technology Center –Lemley	**OSU-Okmulgee**	**10**
Electrical Auto Trans, Steering & Suspension, Brakes Brakes, Hearing & Air Electrical, Engine Performance	Automotive Service Technology (Ford)	Tulsa Technology Center: BA BA Lemley Lemley	**OSU-Okmulgee**	**10**
Electrical Brake System Fundamentals Suspension & Steering Systems Climate Control Fundamental Automotive	Automotive Service Technology (Chrysler)	Tulsa Technology Center: BA Lemley BA Campus BA BA	**OSU-Okmulgee**	**5**

Transmission Fund				
Electrical Fundamentals Brake System Fundamentals Suspension & Steering Fundamentals Heating & Air Condition System Fundamentals Automatic Transmission Fund.	Automotive Service Technology (Nissan)	Tulsa Technology Center : BA Lemley BA Lemley BA	**OSU-Okmulgee**	**7**
Toyota Suspension Toyota Electrical Systems Toyota Brake System	Automotive Service Technology (Toyota)	Tulsa Technology Center: BA Lemley BA	**OSU-Okmulgee**	**12**

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Accounting	Business Technology	Tulsa Technology Center -Peoria	**OSU-Okmulgee**	**9**
Administrative Support & Office Management	Business Technology/IT	Tulsa Technology Center -Peoria	**OSU-Okmulgee**	**6**
Advanced Computer Applications	Business Technology/IT	Tulsa Technology Center –Peoria	**OSU-Okmulgee**	**9**
Certified Computer & Web Foundations	Business Technology/IT	Tulsa Technology Center –BA	**OSU-Okmulgee**	**18**
Cisco Certified Network Associate (CCNA)	Business Technology/IT	Tulsa Technology Center –Riverside	**OSU-Okmulgee**	**21**
Computer Network Technology	Business Technology/IT	Tulsa Technology Center- Peoria	**OSU-Okmulgee**	**15**
Database Administration	Business Technology/IT	Tulsa Technology Center –BA	**OSU-Okmulgee**	**12**
Health Information Technology I	Business Technology	Tulsa Technology Center- Peoria	**OSU-Okmulgee**	**12**
Internet & Network Security	Business Technology/IT	Tulsa Technology Center –Riverside	**OSU-Okmulgee**	**21**
Medical Assistant/Assisting	Business Technology	Tulsa Technology Center –Lemley	**OSU-Okmulgee**	**6**
Network Systems Administration	Business Technology/IT	Tulsa Technology Center -Peoria	**OSU-Okmulgee**	**15**
Web Design	Business Technology/IT	Tulsa Technology Center –BA	**OSU-Okmulgee**	**9**

Web Enterprise Development	Business Technology/IT	Tulsa Technology Center –BA	**OSU-Okmulgee**	**9**
Web Network Administration	Business Technology/IT	Tulsa Technology Center –BA	**OSU-Okmulgee**	**15**
Web Programming	Business Technology/IT	Tulsa Technology Center –BA	**OSU-Okmulgee**	**12**
Website Design0	Business Technology/IT	Tulsa Technology Center –BA	**OSU-Okmulgee**	**9**
Carpentry	Construction Technology	Tulsa Technology Center –Lemley	**OSU-Okmulgee**	**6**
Residential & Commercial Piping Technology	Construction Technology	Tulsa Technology Center –Lemley	**OSU-Okmulgee**	**6**
Tech Center Program	**College Program**	**Tech Center Campus**	**College Campus**	**College Credit Hours**
Welding Technology	Construction Technology	Tulsa Technology Center –Lemley	**OSU-Okmulgee**	**3**
Medium/Heavy Duty Truck Service	Diesel & Heavy Equipment Technology	Tulsa Technology Center –Lemley	**OSU-Okmulgee**	**7**
Technical Drafting & Design	Design Engineering Technology	Tulsa Technology Center –Lemley	**OSU-Okmulgee**	**10**
Drafting	Design Engineering Technology	Tulsa Technology Center –Lemley	**OSU-Okmulgee**	**13**
Electronics Technology – Intro	Electronics Technology	Tulsa Technology Center –Riverside	**OSU-Okmulgee**	**6**
Telecommunication	Electronics Technology	Tulsa Technology Center –Riverside	**OSU-Okmulgee**	**9**

Wireless Technology	Electronics Technology	Tulsa Technology Center –Riverside	**OSU-Okmulgee**	**9**
Industrial Technology	Industrial Technology	Tulsa Technology Center –BA	**OSU-Okmulgee**	**6**
Food Service Management	Hospitality Services Technology	Tulsa Technology Center –Lemley	**OSU-Okmulgee**	**11 (not offered 04))**
Machining Technology	Machining Technology	Tulsa Technology Center –BA	**OSU-Okmulgee**	**15**
Advertising Design	Visual Communications Technology	Tulsa Technology Center	**OSU-Okmulgee**	**9**
Graphics & Imaging Technologies	Visual Communications Technology	Tulsa Technology Center	**OSU-Okmulgee**	**7**
Photography	Visual Communications Technology	Tulsa Technology Center	**OSU-Okmulgee**	**7**

Cooperative Agreements for WES WATKINS TECHNOLOGY CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Computerized Information Technology	Associate in Applied Science in Business/ Information Systems (TRACK OPTIONS) 1. Business/Accounting/ Information Systems 2. Office Management 3. Accounting 4. Customer Service 5. Financial Services 6. Legal Office	Wes Watkins Technology Center's Main Campus	Seminole State College	 16 28 28 31 31 31
Medical Office Technology	Associate in Applied Science in Applied Technology	Wes Watkins Technology Center's Main Campus	Seminole State College	37
Practical Nursing	Health Related	Wes Watkins Technology Center's Main Campus	Seminole State College	16 Plus 9 additional upon acceptance into Seminole State College nursing program
Surgical Technology	Associate in Applied Science in Applied Technology	Wes Watkins Technology Center's Main Campus	Seminole State College	35

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Computerized Information Technology	Associate in Applied Sciences in Business Technology	Wes Watkins Technology Center's Main Campus	OSU-Okmulgee	65
Computer Repair & Networking Technology	Associate in Applied Sciences in Electrical & Electronics Technology	Wes Watkins Technology Center's Main Campus	OSU-Okmulgee	60

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Computerized Information Technology	Associate in Applied Sciences in Business and Computer Technology	Wes Watkins Technology Center's Main Campus	Coffeyville Community College - Kansas	45
Computer Repair & Networking Technology	Associate in Applied Sciences in Computer Networking	Wes Watkins Technology Center's Main Campus	Coffeyville Community College – Kansas	45
Computer Repair & Networking Technology	Associate in Applied Sciences in Computer Repair	Wes Watkins Technology Center's Main Campus	Coffeyville Community College – Kansas	45
Construction Trades Technology	Associate in Applied Sciences in Construction Technology	Wes Watkins Technology Center's Main Campus	Coffeyville Community College – Kansas	45
Building & Grounds/Power Products Technology	Associate in Applied Sciences in Construction Technology	Wes Watkins Technology Center's Main Campus	Coffeyville Community College – Kansas	45
Health Career Certification	Associate in Applied Sciences in Construction Technology	Wes Watkins Technology Center's Main Campus	Coffeyville Community College – Kansas	45
Medical Office Technology	Associate in Applied Sciences in Construction Technology	Wes Watkins Technology Center's Main Campus	Coffeyville Community College – Kansas	45

Surgical Technology	Associate in Applied Sciences in Construction Technology	Wes Watkins Technology Center's Main Campus	Coffeyville Community College – Kansas	45

Cooperative Agreements for WESTERN TECHNOLOGY CENTER

Tech Center Program	College Program	Tech Center Campus	College Campus	College Credit Hours
Business/Computer	Office Systems Technology	Burns Flat / Sayre	Western Oklahoma State College	30

APPENDIX J

OKLAHOMA STATE REGENTS FOR HIGHER EDUCATION

COOPERATIVE AGREEMENTS BY INSTITUTION

Institution	Prog Code	Program Name	CIP	Career Tech Center	
CASC	027	OFFICE ADMINISTRATION	520204	Indian Capital Technology Center	1
CASC	027	OFFICE ADMINISTRATION	520204	Kiamichi Technology Center	
CASC	041	NURSING AAS	511601	Kiamichi Technology Center	1
CSC	063	CHILD DEVELOPMENT	200102	Green Country Technology Center	1
CSC	085	APPLIED TECH-AAS	159999	Indian Capital Technology Center	1
CSC	085	APPLIED TECH-AAS	159999	Northeast Technology Center	
CU	575	RESPIRATORY CARE AAS	510999	Great Plains Technology Center	1
CU	550	CRIMINAL JUSTICE	430107	Great Plains Technology Center	1
EOSC	055	TECHNICAL STUDIES	150603	Kiamichi Technology Center	1
MSC	022	BUSINESS MANAGEMENT	521301	Kiamichi Technology Center	1
MSC	022	BUSINESS MANAGEMENT	521301	Mid-America Technology Center	
MSC	022	BUSINESS MANAGEMENT	521301	Pontotoc Technology Center	
MSC	022	BUSINESS MANAGEMENT	521301	Red River Technology Center	
MSC	022	BUSINESS MANAGEMENT	521301	Southern Oklahoma Technology Center	
MSC	028	BUSINESS/OFFICE TECH	520401	Kiamichi Technology Center	1
MSC	028	BUSINESS/OFFICE TECH	520401	Mid-America Technology Center	
MSC	028	BUSINESS/OFFICE TECH	520401	Pontotoc Technology Center	
MSC	028	BUSINESS/OFFICE TECH	520401	Red River Technology Center	
MSC	028	BUSINESS/OFFICE TECH	520401	Southern Oklahoma Technology Center	
MSC	045	COMPUTER INFO SYSTEMS	110401	Kiamichi Technology Center	1
MSC	045	COMPUTER INFO SYSTEMS	110401	Mid-America Technology Center	
MSC	045	COMPUTER INFO SYSTEMS	110401	Pontotoc Technology Center	
MSC	045	COMPUTER INFO SYSTEMS	110401	Red River Technology Center	
MSC	045	COMPUTER INFO SYSTEMS	110401	Southern Oklahoma Technology Center	
MSC	052	ENGINEERING TECHNOLOGY	159999	Mid-America Technology Center	1
MSC	052	ENGINEERING TECHNOLOGY	159999	Pontotoc Technology Center	

MSC	052	ENGINEERING TECHNOLOGY		159999	Red River Technology Center		
MSC	052	ENGINEERING TECHNOLOGY		159999	Southern Oklahoma Technology Center		
MSC	060	APPLIED TECH - AAS		150699	Kiamichi Technology Center		1
MSC	060	APPLIED TECH - AAS		150699	Mid-America Technology Center		
MSC	060	APPLIED TECH - AAS		150699	Pontotoc Technology Center		
MSC	060	APPLIED TECH - AAS		150699	Red River Technology Center		
MSC	060	APPLIED TECH - AAS		150699	Southern Oklahoma Technology Center		
NEOAMC	010	EARLY CHILD ED		200102	Northeast Technology Center		1
NEOAMC	014	DRAFTING AND DESIGN		480102	Tri-County Technology Center		1
NEOAMC	019	ELECTRONICS		150303	Central Tech		1
NEOAMC	019	ELECTRONICS		150303	Northeast Technology Center		
NEOAMC	019	ELECTRONICS		150303	Tri-County Technology Center		
NEOAMC	031	METAL FABRICATION		480503	Missouri AVTC - Gibson Technology Center		1
NEOAMC	031	METAL FABRICATION		480503	Missouri AVTC - Lamar AVTS		
NEOAMC	031	METAL FABRICATION		480503	Tri-County Technology Center		
NEOAMC	032	MARKETING AND MGMNT		521401	Tri-County Technology Center		1
NEOAMC	043	ADMIN. OFFICE SUPPORT		520401	Northeast Technology Center		1
NEOAMC	043	ADMIN. OFFICE SUPPORT		520401	Tri-County Technology Center		
NEOAMC	119	INTEGRATED TECH-AAS		159999	Northeast Technology Center		1
NOC	056	PRINTING TECH-AAS		500710	Autry Technology Center		1
NOC	060	OFFICE MGMT-AAS		520401	Autry Technology Center		1
NOC	060	OFFICE MGMT-AAS		520401	High Plains Technology Center		
NOC	060	OFFICE MGMT-AAS		520401	Meridian Technology Center		
NOC	060	OFFICE MGMT-AAS		520401	Northwest Technology Center		
NOC	060	OFFICE MGMT-AAS		520401	Pioneer Technology Center		
NOC	069	ELECTRONICS TECH-AAS		150303	Autry Technology Center		1
NOC	073	RESPIRATORY CARE-AAS		510908	Pioneer Technology Center		1
NOC	076	AVIATION MAINT TECH-AAS		470609	Autry Technology Center		1
NOC	079	RADIOGRAPHY-		510907	Autry Technology Center		1

		AAS					
NOC	079	RADIOGRAPHY-AAS		510907	Meridian Technology Center		
NOC	080	SURGICAL TECHNOLOGY-AAS		510909	Autry Technology Center		1
NOC	082	INDUSTRIAL TECH-AAS		150805	Autry Technology Center		1
NOC	082	INDUSTRIAL TECH-AAS		150805	Meridian Technology Center		
NOC	082	INDUSTRIAL TECH-AAS		150805	Pioneer Technology Center		
NOC	083	INFORMATION TECH-AAS		520407	Autry Technology Center		1
NOC	083	INFORMATION TECH-AAS		520407	Chisholm Trail Technology Center		
NOC	083	INFORMATION TECH-AAS		520407	Meridian Technology Center		
NOC	083	INFORMATION TECH-AAS		520407	Northwest Technology Center		
NOC	083	INFORMATION TECH-AAS		520407	Pioneer Technology Center		
NOC		HEALTH SERVICES TECHNOLOGY			Autry Technology Center		1
NOC		HEALTH SERVICES TECHNOLOGY			High Plains Technology Center		
NOC		HEALTH SERVICES TECHNOLOGY			Meridian Technology Center		
NOC		HEALTH SERVICES TECHNOLOGY			Northwest Technology Center		
NOC		HEALTH SERVICES TECHNOLOGY			Pioneer Technology Center		
OCCC	005	CHILD DEVELOPMENT		200102	Francis Tuttle Technology Center		1
OCCC	005	CHILD DEVELOPMENT		200102	Moore Norman Technology Center		
OCCC	006	GRAPHIC COMMUNICATIONS		500402	Francis Tuttle Technology Center		1
OCCC	006	GRAPHIC COMMUNICATIONS		500402	Metro Technology Centers		
OCCC	006	GRAPHIC COMMUNICATIONS		500402	Moore Norman Technology Center		
OCCC	011	COMP-AIDED DESIGN		480101	Francis Tuttle Technology Center		1
OCCC	011	COMP-AIDED DESIGN		480101	Moore Norman Technology Center		

OCCC	013	ELECTRONICS TECHNOLOGY		150303	Francis Tuttle Technology Center		1
OCCC	013	ELECTRONICS TECHNOLOGY		150303	Metro Technology Centers		
OCCC	013	ELECTRONICS TECHNOLOGY		150303	Moore Norman Technology Center		
OCCC	034	MANUFACTURING TECH		150603	Francis Tuttle Technology Center		1
OCCC	034	MANUFACTURING TECH		150603	Moore Norman Technology Center		
OCCC	048	AUTO TECH		150803	Francis Tuttle Technology Center		1
OCCC	048	AUTO TECH		150803	Metro Technology Centers		
OCCC	048	AUTO TECH		150803	Moore Norman Technology Center		
OCCC	052	COMPUTER SCIENCE		521202	Francis Tuttle Technology Center		1
OCCC	052	COMPUTER SCIENCE		521202	Metro Technology Centers		
OCCC	052	COMPUTER SCIENCE		521202	Moore Norman Technology Center		
OCCC	101	AVIATION MAINTENANCE TECH		470609	Metro Technology Centers		1
OCCC	108	MICROCOMP SUP TECH-AAS		150301	Francis Tuttle Technology Center		1
OCCC	108	MICROCOMP SUP TECH-AAS		150301	Metro Technology Centers		
OCCC	108	MICROCOMP SUP TECH-AAS		150301	Moore Norman Technology Center		
OCCC	113	RESPIRATORY CARE		510999	Francis Tuttle Technology Center		1
OCCC	114	SURGICAL TECH		510909	Metro Technology Centers		1
OCCC	114	SURGICAL TECH		510909	Moore Norman Technology Center		
OCCC	120	MEDICAL ASST *		510801	Francis Tuttle Technology Center		1
OCCC	120	MEDICAL ASST *		510801	Metro Technology Centers		
OCCC	120	MEDICAL ASST *		510801	Moore Norman Technology Center		
OCCC	123	ORTH & PROSTH TECH - AAS		512307	Francis Tuttle Technology Center		1
OCCC	127	APPLIED TECH-AAS		159999	Francis Tuttle Technology Center		1
OCCC	127	APPLIED TECH-AAS		159999	Metro Technology Centers		
OCCC	127	APPLIED TECH-AAS		159999	Moore Norman Technology Center		
OCCC	142	DATABASE MANAGEMENT-AAS		110501	Francis Tuttle Technology Center		1
OCCC	142	DATABASE MANAGEMENT-AAS		110501	Moore Norman Technology Center		
OCCC	143	NETWORK		111002	Francis Tuttle Technology Center		1

		TECHNOLOGY-AAS					
OCCC	143	NETWORK TECHNOLOGY-AAS		111002	Moore Norman Technology Center		
OKC	005	COMPUTER INFO SYSTEMS		521202	Metro Technology Centers		1
OKC	006	ELECTRONICS ENGINEERING		141001	Metro Technology Centers		1
OKC	009	MUNICIPAL FIRE PROTECTION		430201	Canadian Valley Technology Center		1
OKC	009	MUNICIPAL FIRE PROTECTION		430201	Eastern Oklahoma County Technology Center		
OKC	009	MUNICIPAL FIRE PROTECTION		430201	Metro Technology Centers		
OKC	009	MUNICIPAL FIRE PROTECTION		430201	Moore Norman Technology Center		
OKC	012	IND DRAFTING AND DESIGN		480105	Metro Technology Centers		1
OKC	013	HVAC - AAS		150404	Metro Technology Centers		1
OKC	022	ACCOUNTING		520302	Metro Technology Centers		1
OKC	065	CONSTRUCTION		151001	Francis Tuttle Technology Center		1
OKC	088	EMER MED SERV/MUNC FIRE PROT		510904	Kiamichi Technology Center		1
OKM	002	AIR COND & REFRIG TECH		470201	Autry Technology Center		1
OKM	002	AIR COND & REFRIG TECH		470201	Central Tech		
OKM	002	AIR COND & REFRIG TECH		470201	Great Plains Technology Center		
OKM	002	AIR COND & REFRIG TECH		470201	Indian Capital Technology Center		
OKM	002	AIR COND & REFRIG TECH		470201	Kiamichi Technology Center		
OKM	002	AIR COND & REFRIG TECH		470201	Meridian Technology Center		
OKM	002	AIR COND & REFRIG TECH		470201	Southern Oklahoma Technology Center		
OKM	002	AIR COND & REFRIG TECH		470201	Tulsa Technology Center		
OKM	003	AUTOMOTIVE BODY TECH		470603	Autry Technology Center		1
OKM	003	AUTOMOTIVE BODY TECH		470603	Great Plains Technology Center		
OKM	003	AUTOMOTIVE BODY TECH		470603	Indian Capital Technology Center		
OKM	003	AUTOMOTIVE BODY TECH		470603	Kiamichi Technology Center		
OKM	003	AUTOMOTIVE BODY TECH		470603	Northeast Technology Center		
OKM	003	AUTO COLLISION REPAIR TECH		470603	Northwest Technology Center		

OKM	003	AUTOMOTIVE BODY TECH		470603	Southern Oklahoma Technology Center		
OKM	003	AUTOMOTIVE BODY TECH		470603	Tri-County Technology Center		
OKM	003	AUTOMOTIVE BODY TECH		470603	Tulsa Technology Center		
OKM	004	AUTOMOTIVE SERV TECH		150803	Autry Technology Center		1
OKM	004	AUTOMOTIVE SERV TECH		150803	Central Tech		
OKM	004	AUTOMOTIVE SERV TECH		150803	Chisholm Trail Technology Center		
OKM	004	AUTOMOTIVE SERV TECH		150803	Great Plains Technology Center		
OKM	004	AUTOMOTIVE SERVICE TECH		150803	High Plains Technology Center		
OKM	004	AUTOMOTIVE SERV TECH		150803	Indian Capital Technology Center		
OKM	004	AUTOMOTIVE SERV TECH		150803	Kiamichi Technology Center		
OKM	004	AUTOMOTIVE SERV TECH		150803	Northeast Technology Center		
OKM	004	AUTOMOTIVE SERVICE TECH		150803	Northwest Technology Center		
OKM	004	AUTOMOTIVE SERVICE TECH		150803	Pioneer Technology Center		
OKM	004	AUTOMOTIVE SERV TECH		150803	Southern Oklahoma Technology Center		
OKM	004	AUTOMOTIVE SERV TECH		150803	Tri-County Technology Center		
OKM	004	AUTOMOTIVE SERV TECH		150803	Tulsa Technology Center		
OKM	011	CONSTRUCTION TECHNOLOGY		469999	Autry Technology Center		1
OKM	011	CONSTRUCTION TECHNOLOGY		469999	Central Tech		
OKM	011	CONSTRUCTION TECHNOLOGY		469999	Chisholm Trail Technology Center		
OKM	011	CONSTRUCTION TECHNOLOGY		469999	Great Plains Technology Center		
OKM	011	CONSTRUCTION TECHNOLOGY		469999	High Plains Technology Center		
OKM	011	CONSTRUCTION TECHNOLOGY		469999	Indian Capital Technology Center		
OKM	011	CONSTRUCTION TECHNOLOGY		469999	Kiamichi Technology Center		
OKM	011	CONSTRUCTION TECHNOLOGY		469999	Meridian Technology Center		
OKM	011	CONSTRUCTION TECHNOLOGY		469999	Northeast Technology Center		
OKM	011	CONSTRUCTION TECHNOLOGY		469999	Pioneer Technology Center		
OKM	011	CONSTRUCTION TECHNOLOGY		469999	Southern Oklahoma Technology Center		

OKM	011	CONSTRUCTION TECHNOLOGY		469999	Tulsa Technology Center		
OKM	012	INFORMATION TECH-AAS		521201	Autry Technology Center		1
OKM	012	INFORMATION TECH-AAS		521201	Central Tech		
OKM	012	INFORMATION TECH-AAS		521201	Chisholm Trail Technology Center		
OKM	012	INFORMATION TECHNOLOGY		521201	High Plains Technology Center		
OKM	012	INFORMATION TECH-AAS		521201	Indian Capital Technology Center		
OKM	012	INFORMATION TECH-AAS		521201	Kiamichi Technology Center		
OKM	012	INFORMATION TECH-AAS		521201	Meridian Technology Center		
OKM	012	INFORMATION TECH-AAS		521201	Northeast Technology Center		
OKM	012	INFORMATION TECHNOLOGY		521201	Northwest Technology Center		
OKM	012	INFORMATION TECH-AAS		521201	Pioneer Technology Center		
OKM	012	INFORMATION TECH-AAS		521201	Southern Oklahoma Technology Center		
OKM	012	INFORMATION TECH-AAS		521201	Tri-County Technology Center		
OKM	012	INFORMATION TECH-AAS		521201	Tulsa Technology Center		
OKM	012	INFORMATION TECH-AAS		521201	Wes Watkins Technology Center		
OKM	014	GRAPHIC DESIGN TECH		500402	Autry Technology Center		1
OKM	014	GRAPHIC DESIGN TECH		500402	Tulsa Technology Center		
OKM	018	DIESEL & HEAVY EQUP TECH		470605	Autry Technology Center		1
OKM	018	DIESEL & HEAVY EQUP TECH		470605	Central Tech		
OKM	018	DIESEL & HEAVY EQUP TECH		470605	Great Plains Technology Center		
OKM	018	DIESEL&HEAVY EQUIP TECH		470605	High Plains Technology Center		
OKM	018	DIESEL & HEAVY EQUP TECH		470605	Kiamichi Technology Center		
OKM	018	DIESEL & HEAVY EQUP TECH		470605	Northeast Technology Center		
OKM	018	DIESEL & HEAVY EQUP TECH		470605	Pioneer Technology Center		
OKM	018	DIESEL & HEAVY EQUP TECH		470605	Southern Oklahoma Technology Center		
OKM	018	DIESEL & HEAVY EQUP TECH		470605	Tulsa Technology Center		
OKM	027	BUS SYS TECH-AAS		521401	Autry Technology Center		1

OKM	027	BUS SYS TECH-AAS		521401	Chisholm Trail Technology Center		
OKM	027	BUS SYSTEMS TECHNOLOGY		521401	High Plains Technology Center		
OKM	027	BUS SYS TECH-AAS		521401	Indian Capital Technology Center		
OKM	027	BUS SYS TECH-AAS		521401	Kiamichi Technology Center		
OKM	027	BUS SYS TECH-AAS		521401	Meridian Technology Center		
OKM	027	BUS SYS TECH-AAS		521401	Northeast Technology Center		
OKM	027	BUS SYSTEMS TECHNOLOGY		521401	Northwest Technology Center		
OKM	027	BUS SYS TECH-AAS		521401	Pioneer Technology Center		
OKM	027	BUS SYS TECH-AAS		521401	Southern Oklahoma Technology Center		
OKM	027	BUS SYS TECH-AAS		521401	Tulsa Technology Center		
OKM	027	BUS SYS TECH-AAS		521401	Wes Watkins Technology Center		
OKM	034	MULTI-MEDIA GRAPH TECH		480206	Central Tech		1
OKM	034	MULTI-MEDIA GRAPH TECH		480206	Indian Capital Technology Center		
OKM	034	MULTI-MEDIA GRAPH TECH		480206	Kiamichi Technology Center		
OKM	034	MULTI-MEDIA GRAPH TECH		480206	Southern Oklahoma Technology Center		
OKM	039	INFO SYS TECH-AAS		520408	Autry Technology Center		1
OKM	039	INFO SYS TECH-AAS		520408	Central Tech		
OKM	039	INFO SYS TECH-AAS		520408	Chisholm Trail Technology Center		
OKM	039	OFFICE INFO SYSTEMS TECH		520408	High Plains Technology Center		
OKM	039	INFO SYS TECH-AAS		520408	Indian Capital Technology Center		
OKM	039	INFO SYS TECH-AAS		520408	Meridian Technology Center		
OKM	039	INFO SYS TECH-AAS		520408	Northeast Technology Center		
OKM	039	OFFICE INFO SYSTEMS TECH		520408	Northwest Technology Center		
OKM	039	INFO SYS TECH-AAS		520408	Pioneer Technology Center		
OKM	039	INFO SYS TECH-AAS		520408	Southern Oklahoma Technology Center		
OKM	039	INFO SYS TECH-AAS		520408	Tri-County Technology Center		
OKM	039	INFO SYS TECH-AAS		520408	Tulsa Technology Center		

OKM	039	INFO SYS TECH-AAS		520408	Wes Watkins Technology Center		
OKM	046	FOOD SER MGMT (CUL ARTS)		200499	Autry Technology Center		1
OKM	046	FOOD SER MGMT (CUL ARTS)		200499	Great Plains Technology Center		
OKM	046	FOOD SER MGMT (CUL ARTS)		200499	Indian Capital Technology Center		
OKM	046	FOOD SER MGMT (CUL ARTS)		200499	Kiamichi Technology Center		
OKM	046	FOOD SER MGMT (CUL ARTS)		200499	Meridian Technology Center		
OKM	046	FOOD SER MGMT (CUL ARTS)		200499	Northeast Technology Center		
OKM	046	FOOD SERVICE MGMT		200499	Pioneer Technology Center		
OKM	046	FOOD SER MGMT (CUL ARTS)		200499	Southern Oklahoma Technology Center		
OKM	046	FOOD SER MGMT (CUL ARTS)		200499	Tri-County Technology Center		
OKM	046	FOOD SER MGMT (CUL ARTS)		200499	Tulsa Technology Center		
OKM	061	PHOTOGRAPHY TECHNOLOGY		480205	Tulsa Technology Center		1
OKM	080	EGR TECHNOLOGIES-AAS		470101	Central Tech		1
OKM	080	EGR TECHNOLOGIES-AAS		470101	Great Plains Technology Center		
OKM	080	EGR TECHNOLOGIES-AAS		470101	Indian Capital Technology Center		
OKM	080	EGR TECHNOLOGIES-AAS		470101	Kiamichi Technology Center		
OKM	080	EGR TECHNOLOGIES-AAS		470101	Meridian Technology Center		
OKM	080	EGR TECHNOLOGIES-AAS		470101	Northeast Technology Center		
OKM	080	EGR TECHNOLOGIES-AAS		470101	Southern Oklahoma Technology Center		
OKM	080	EGR TECHNOLOGIES-AAS		470101	Tri-County Technology Center		
OKM	080	EGR TECHNOLOGIES-AAS		470101	Tulsa Technology Center		
OKM	080	EGR TECHNOLOGIES-AAS		470101	Wes Watkins Technology Center		

OPSU	050	TECHNOLOGY AAS		159999	High Plains Technology Center		1
RCC	007	CHILD DEVELOPMENT		200102	Caddo Kiowa Technology Center		1
RCC	007	CHILD DEVELOPMENT		200102	Canadian Valley Technology Center		
RCC	058	BUSINESS ADMINISTRATION TECH		520201	Caddo Kiowa Technology Center		1
RCC	058	BUSINESS ADMINISTRATION TECH		520201	Canadian Valley Technology Center		
RCC	058	BUSINESS ADMINISTRATION TECH		520201	Chisholm Trail Technology Center		
RCC	064	EQUINE SCIENCE		019999	Mid-America Technology Center		1
RCC	076	EMT (AAS)		510904	Caddo Kiowa Technology Center		1
RCC	076	EMT (AAS)		510904	Canadian Valley Technology Center		
RCC	081	APPLIED TECHNOLOGY		159999	Caddo Kiowa Technology Center		1
RCC	081	APPLIED TECHNOLOGY		159999	Canadian Valley Technology Center		
Rose	001	ACCOUNTING		520302	Eastern Oklahoma County Technology Center		1
Rose	001	ACCOUNTING		520302	Mid-Del Technology Center		
Rose	008	BUSINESS ADMINISTRATION		520201	Eastern Oklahoma County Technology Center		1
Rose	008	BUSINESS ADMINISTRATION		520201	Francis Tuttle Technology Center		
Rose	008	BUSINESS ADMINISTRATION		520201	Mid-Del Technology Center		
Rose	009	COURT REPORTING		520405	Eastern Oklahoma County Technology Center		1
Rose	009	COURT REPORTING		520405	Francis Tuttle Technology Center		
Rose	009	COURT REPORTING		520405	Mid-Del Technology Center		
Rose	010	COMP & INFO TECH		521201	Eastern Oklahoma County Technology Center		1
Rose	010	COMP & INFO TECH		521201	Francis Tuttle Technology Center		
Rose	010	COMP & INFO TECH		521201	Mid-Del Technology Center		
Rose	017	ELECTRONICS TECHNOLOGY		150303	Mid-Del Technology Center		1
Rose	027	LEGAL ASST		220103	Eastern Oklahoma County Technology Center		1
Rose	027	LEGAL ASST		220103	Francis Tuttle Technology Center		
Rose	027	LEGAL ASST		220103	Mid-Del Technology Center		
Rose	070	BRDCST COMM AAS		090402	American Broadcasting School		1
Rose	091	FAM SERV/CHILD DEV		200201	Gordon Cooper Technology Center		1

Rose	106	PHYS THERAPIST ASST-AAS *		510806	Eastern Oklahoma County Technology Center		1
Rose	114	APPLIED TECH AAS *		470603	Eastern Oklahoma County Technology Center		1
Rose	114	APPLIED TECH AAS *		470603	Gordon Cooper Technology Center		
Rose	114	APPLIED TECH AAS *		470603	Metro Technology Centers		
Rose	114	APPLIED TECH AAS *		470603	Mid-Del Technology Center		
Rose	114	APPLIED TECH AAS *		470603	Moore Norman Technology Center		
Rose	115	EMT/PARAMEDIC AAS *		510904	Eastern Oklahoma County Technology Center		1
Rose	116	INDUSTRIAL TECH AAS *		150603	Eastern Oklahoma County Technology Center		1
Rose	116	INDUSTRIAL TECH AAS *		150603	Gordon Cooper Technology Center		
Rose	116	INDUSTRIAL TECH AAS *		150603	Mid-Del Technology Center		
RSU	039	OFF ADMN-AAS		520401	Northeast Technology Center		1
RSU	111	APPLIED TECH-AAS		159999	Central Tech		1
RSU	111	APPLIED TECH-AAS		159999	Northeast Technology Center		
RSU	111	APPLIED TECH-AAS		159999	Tri-County Technology Center		
RSU	111	APPLIED TECH-AAS		159999	Tulsa Technology Center		
SSC	110	NURSING *		511601	Gordon Cooper Technology Center		1
SSC	110	NURSING		511601	Moore Norman Technology Center		
SSC	110	NURSING *		511601	Wes Watkins Technology Center		
SSC	114	BUS & INFO SYS *		521299	Gordon Cooper Technology Center		1
SSC	114	BUS & INFO SYS *		521299	Wes Watkins Technology Center		
SSC	120	APPLIED TECH - AAS		150699	Gordon Cooper Technology Center		1
SSC	120	APPLIED TECH - AAS		150699	Pontotoc Technology Center		
SSC	120	APPLIED TECH - AAS		150699	Wes Watkins Technology Center		
SWOSU	130	TECHNOLOGY-AAS		150403	Western Technology Center		1
SWOSU	131	PHYS THERAPIST ASST-AAS		510806	Caddo Kiowa Technology Center		1
SWOSU	135	OCCUP THER ASSIST-AAS		510803	Caddo Kiowa Technology Center		1
TCC	029	DESIGN EGR TECH-AAS		480101	Tri-County Technology Center		1
TCC	029	DESIGN EGR TECH-AAS		480101	Tulsa Technology Center		

TCC	031	ELECTRONICS TECHNOLOGY		150303	Tulsa Technology Center		1
TCC	034	HORTICULTURE TECH		010601	Tulsa Technology Center		1
TCC	045	NUMER CONTROL/MACH TECH		150805	Central Tech		1
TCC	045	NUMER CONTROL/MACH TECH		150805	Tri-County Technology Center		
TCC	045	NUMER CONTROL/MACH TECH		150805	Tulsa Technology Center		
TCC	046	MARKETING		080708	Central Tech		1
TCC	046	MARKETING		080708	Tulsa Technology Center		
TCC	048	MEDICAL ASSISTANT		510801	Tri-County Technology Center		1
TCC	048	MEDICAL ASSISTANT		510801	Tulsa Technology Center		
TCC	061	LAW ENFORCEMENT		430107	Central Tech		1
TCC	093	MANAGEMENT-AAS		529999	Tulsa Technology Center		1
TCC	098	DIGITAL VIDEO-AAS		470104	Central Tech		1
TCC	098	DIGITAL VIDEO-AAS		470104	Tri-County Technology Center		
TCC	098	DIGITAL VIDEO-AAS		470104	Tulsa Technology Center		
TCC	199	AVIATION SCIENCES TECH		150801	Tulsa Technology Center		1
TCC	200	CHILD DEV & FAM REL-AAS		200102	Tri-County Technology Center		1
TCC	200	CHILD DEV & FAM REL-AAS		200102	Tulsa Technology Center		
TCC	225	HEALTH CARE ADMIN		510799	Tulsa Technology Center		1
TCC	230	TELECOMM TECH		099999	Tulsa Technology Center		1
TCC	233	DENTAL ASSISTING AAS *		510601	Tulsa Technology Center		1
TCC	234	EMER MED TECHNICIAN AAS *		510904	Tulsa Technology Center		1
TCC	235	SURGICAL TECH AAS *		510909	Tulsa Technology Center		1
TCC	235	SURGICAL TECH AAS *		510909	Central Tech		
TCC	240	GRAPHICS & IMAG TECH-AAS		480201	Tulsa Technology Center		1
TCC	242	TRANSPORTATION MGT-AAS		520201	Central Tech		1
TCC	249	CHEMICAL LAB-AAS		410301	Tulsa Technology Center		1

WOSC	003	AVIATION *		490104	Canadian Valley Technology Center		1
WOSC	003	AVIATION *		490104	Southwest Technology Center		
WOSC	010	CHILD DEV. *		200102	Caddo Kiowa Technology Center		1
WOSC	015	APPLIED TECHNOLOGY *		480102	Great Plains Technology Center		1
WOSC	015	APPLIED TECHNOLOGY *		480102	Red River Technology Center		
WOSC	015	APPLIED TECHNOLOGY *		480102	Southwest Technology Center		
WOSC	025	CRIMINAL JUSTICE *		430107	Great Plains Technology Center		1
WOSC	040	NURSING		511601	Great Plains Technology Center		1
WOSC	040	NURSING		511601	Red River Technology Center		
WOSC	040	NURSING		511601	Southwest Technology Center		
WOSC	044	COMP INFO SYS *		521205	Great Plains Technology Center		1
WOSC	045	RADIOLOGIC TECHNOLOGY		510907	Great Plains Technology Center		1
WOSC	049	OFC SYS TECH *		520302	Great Plains Technology Center		1
WOSC	049	OFC SYS TECH *		520302	Southwest Technology Center		
WOSC	049	OFC SYS TECH *		520302	Western Technology Center		
WOSC	057	EMT-AAS		510904	Great Plains Technology Center		1
WOSC	058	FIRE TECH-AAS *		430299	Great Plains Technology Center		1
WOSC	059	PC HARDWARE/NETWORK SPEC		150402	Great Plains Technology Center		1
WOSC	059	PC HARDWARE/NETWORK SPEC		150402	Southwest Technology Center		
335							122

APPENDIX K

INSTITUTIONAL REVIEW BOARD APPROVAL

Oklahoma State University Institutional Review Board

Date:	Thursday, January 27,2005
IRB Application No	ED0554
Proposal Title:	The Effects of Cooperative Agreement Programs Between Technology Centers and Community Colleges in Oklahoma
Reviewed and Processed as:	Expedited

Status Recommended by Reviewer(s): Approved Protocol Expires: 1/26/2006

Principal Investigator(s

Norman Dean Smithson
2585 Maple Dr.
Harrah, OK 73045

Reynaldo Martinez
209 Willard
Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 415 Whitehurst (phone: 405-744-5700, emct@okstate.edu).

Sincerely,

~c:

Sue C. Jacobs, Chair
Institutional Review Board

VITA

Norman Dean "Buddy" Smithson

Candidate for the Degree of

Doctor of Education

Thesis: THE EFFECTS OF COOPERATIVE AGREEMENT PROGRAMS BETWEEN TECHNOLOGY CENTERS AND COMMUNITY COLLEGES IN OKLAHOMA

Major Field: Occupational and Adult Education

Biographical:

Personal Data: Born in Annapolis, Maryland, October 17, 1960. The son of Melvin and Betty Graham of Coyle, Oklahoma. Married to Dana Thomas, January 2nd, 2004. Three daughters; Kristen Kurtz (24), Samantha Thomas (21), Kasey Smithson (17) and one son; Dustin Smithson (24).

Education: Graduated from Vian High School, Vian, Oklahoma, in May 1978. Graduated from Indian Capital Area Vocational Technical District, Muskogee, Oklahoma, in May of 1978. Received a Bachelor of Science degree in Industrial Technology from Northeastern State University, Tahlequah, Oklahoma, in December of 1986. Received a Master of Science degree in Occupational and Adult Education from Oklahoma State University, Stillwater, Oklahoma, in May of 2000. Completed the requirements for the Doctor of Education degree at Oklahoma State University, Stillwater, Oklahoma, in May of 2005.

Professional Experience: Drafting instructor, Central Tech, Drumright, Oklahoma, August 1983 through May of 1999. Curriculum Developer, Mid American Vocational Curriculum Consortium (MAVCC), 1989, 1990. Curriculum writer, AutoCAD survival Guide, Pipe Drafting and Architectural Drafting. Director of Secondary Education at Eastern Oklahoma County Technology Center, Choctaw, Oklahoma, July 1999 through present. Oklahoma Outstanding "New" Trade & Industrial Instructor 1985, Oklahoma Outstanding Trade & Industrial Instructor 1999. Mid American Outstanding Trade & Industrial Technology Instructor 2000. Mayor, City of Mannford, Mannford, Oklahoma, 1985-1999. President Trade & Industrial Education State of Oklahoma, 1997.