A COMPARISON OF THE EFFECTS OF VOCATIONAL EDUCATION COMPONENTS AND NON-VOCATIONAL COMPONENTS ON ALTERNATIVE EDUCATION STUDENTS IN THE STATE OF OKLAHOMA

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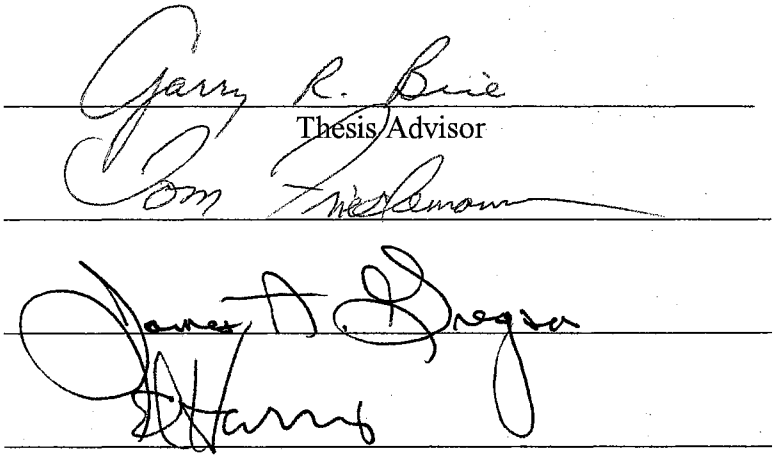

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CHAPTER I

RESEARCH PROBLEM

Introduction

The public school system in the United States is under tremendous pressure to improve the quality of education for all students, especially those from diverse backgrounds who do not have much success with traditional approaches and are at risk of dropping out before graduation (Hamby, 1992). Reformers are calling for fundamental changes in an educational paradigm developed during the Industrial Revolution in an effort to improve the quality of education for all students (Hamby & Monaco, 1993).

According to Blank & Harwell (1997), the high school of today has changed very little from the high schools attended by our parents and even our grandparents. They are still organized around isolated academic disciplines, and still use a "listen to the lecture, read the chapter, answer the questions, take the test, and then forget it all" approach to instruction. Blank and Harwell (1997) stated that at a time in which our graduates will face increasing global competition in the rapidly changing technological workplace, will change careers many times, and will be faced with the most critical social and environmental decisions in human history, completing four years of barely connected courses, most of which focus on the mastery of content from textbooks written a decade ago, will ill-prepare our youth to take charge of their future.

Test scores, dropout rates, behavioral problems, remediation required by colleges, and business and industry feedback all confirm weaknesses in the public school delivery system. Public schools are weak on relevancy, connectivity of subjects, and hands-on curriculum (Grubb, 1995). Some educators believe vocational education can provide solutions for some of those problems. However, the same educators who lament the weaknesses of public schools believe vocational education also falls short in delivering the total education package. Shortcomings include the lack of core subject integration into vocational curriculum, low academic expectations, and a terminal system (Bottoms, 1995). A useful answer appears to lie somewhere in the middle of these two traditional approaches. With initiatives such as "school-to-work," public schools and vocational schools are merging their strengths (Bottoms, 1997).

Another educational enterprise that fosters the integration of public schools and vocational education is alternative education. Alternative education is at the educational forefront not only in Oklahoma but across the nation. It is based on the belief that there are many ways to become educated, as well as many types of environments and structures within which this may occur (Child Service Demonstration Center, 1996). Some successful alternative education programs in Oklahoma are blending components of both common schools and vocational education (Oklahoma Technical Assistance Center, 1997). Bottoms (1997) states that by the very nature of vocational education instructional methodology which includes student assessment, applied instruction, self-paced curriculum, and relevancy to the world of work, it is reasonable to assume that it would serve as a successful component of alternative education programs. Passive instructional strategies, lack of relevant curriculum, poor guidance programs, inappropriate use of

technology, negative school climate, and disregard of student learning styles are among school related factors that place students at risk. Many of these elements have been eliminated or at least minimized in vocational education (Bottoms, 1997).

Duttweiler (1995) states that alternative education programs have the flexibility, freedom, and deregulatory power to explore different types of delivery systems. Alternative education programs have the opportunity to be a proving ground for educational change. Effective alternative schools share many features with exemplary schools. Policy-makers could view the ideal alternative school as a model, and use it to initiate overall educational reform. Alternative education programs will help policy makers to confront the failures of the traditional delivery system (Duttweiler, 1995).

Statement of the Problem

House Bill 2692, passed by the Oklahoma Legislature in 1996, requires all school districts in Oklahoma to develop and implement alternative education programs by the 2000-2001 school year (Oklahoma State Department of Education, 1997). Since the curriculum regulations and delivery guidelines for alternative education in Oklahoma are very liberal at this stage of development, creativity and reform are being encouraged as alternative education programs are emerging. Therefore, it is imperative that monies be wisely invested in programs that have the opportunity to be successful with students. As regulatory agencies refine alternative education criteria and design future programs, they will be assessing and evaluating components that have a positive impact on students. Currently insufficient data are readily available upon which these important decisions can

be based. Results of this study will assist agencies in their attempt to establish criteria and curriculum components for alternative education programs.

The basic problem addressed by this study is that Oklahoma taxpayers will be spending millions of dollars on alternative education programs in Oklahoma and it is not known if vocational education components contribute to the effectiveness of these programs.

Purpose of the Research

The purpose of this research was to determine if the integration of vocational educational components into alternative education programs in Oklahoma had a significant impact on student achievement as measured by selected variables.

Research Questions

The following research questions were developed to provide direction to the study:

1. Are there significant differences, in terms of selected variables, among students in alternative education programs in Oklahoma with vocational education components, as compared to students in alternative education programs in Oklahoma without vocational education components?

2. Are there significant differences, in terms of placements, among students in alternative education programs in Oklahoma with vocational education components, as compared with students in alternative education programs in Oklahoma without vocational education components?

Limitations of the Study

The following limitations applied to the study:

1. The study was conducted over one academic year.

2. By using the student's last known address, return information on the placement survey was limited.

3. The study was limited to selected schools in Oklahoma.

Assumptions of the Study

The study was conducted with the following assumptions:

1. Alternative schools chosen for this study were similar other than the vocational component.

2. The students' grade point averages were calculated in a similar manner among schools.

3. The students' standardized academic tests were administered in a similar manner among schools.

4. Vocational education components consist of one, or a combination of all or any, of the following: enrollment in an area vocational technical school program; and/or a work-site education program; and/or an apprenticeship program; and/or a service learning program.

5. Alternative education components, other than vocational components, may impact student achievement in one or all of the measured variables.

Definition of Terms

The following terms and definitions were relevant and added clarity and understanding to this study:

Alternative Education - An educational process incorporating appropriate structure, curriculum, interaction, and reinforcement strategies designed to provide effective instruction for those students whose needs are not best served within the traditional educational setting. (This is the definition adopted by the Oklahoma Alternative Education Association, a statewide association formed in 1985 by educators involved in successful alternative school programs.)

Alternative School/Program With Vocational Components - For the purpose of this study alternative school/program with vocational components refers to an alternative education school/program that required students to complete at least one vocational component (as defined in this study) as part of their curricular requirements in addition to their regular core courses.

Alternative School/Program Without Vocational Components - For the purpose of this study alternative school/program without vocational components refers to an alternative education school/program that did not require students to complete at least one vocational component (as defined in this study) as part of their curricular requirements in addition to their regular core courses.

Applied Academics - Courses such as applied math, principles of technology, applied biology and chemistry, applied communication, and applied social studies that focus on subject matter concepts as they apply to real-world problem solving (Oklahoma Department of Vocational and Technical Education, 1996).

Apprenticeship - Registered apprenticeship describes those apprenticeship programs which meet specific federally approved standards designed to safeguard the welfare of apprentices and which are registered with the Bureau of Apprenticeship and Training (BAT). It is a relationship between an employer and employee during which the worker, or apprentice, learns an occupation in a structured program sponsored jointly by employers and labor unions or operated by employers and employer associations (Oklahoma Department of Vocational and Technical Education, 1996). Also see *Youth Apprenticeship.*

At-Risk Student - Individuals whose present or predictable status (economic, social- culture, academic, and/or health) indicates that they might fail to successfully complete their secondary education and acquire basic life skills necessary for higher education and/or employment. More specifically, children and youth may be deemed at-risk if:

1. They are a member of a household family whose income is at or below the poverty level under criteria used by the U.S. Bureau of Census; or
2. They have not made substantial progress in mastering basic skills that are appropriate for students of their age; or
3. They have grades that consistently indicate major underachievement; or
4. They have been retained in a grade for one or more years; or
5. They have been a school dropout or have had excessive absences during a school year; or
6. They have been determined to be at-risk based on assessment by school staff familiar with the students' health, social, or family status as these influences may be impairing the student's success in school. Influences may include but are not limited to, evidence of abuse of the student, the students' use of alcohol or drugs, pregnancy or attempted suicide (Oklahoma Technical Assistance Center, 1997).

Integrated Learning - The "horizontal" bridging across academics and vocational areas of the curriculum to provide students with exposure to both disciplines and ultimately how to apply them (Grubb, 1995).

School Size - The population of the town in which the schools were located. For the purpose of this study, rural was defined as any location with a population of 12,000 or less; urban was defined as any location with a population of between 12,001 and 50,000; and metropolitan being defined as any location with a population of 50,001 or more.

School-to-Work - An initiative which helps young people progress smoothly from school to work by making connections between their education and career. The system is a cooperative effort of elementary and secondary education, vocational-technical education, higher education, and business/industry partners to engage all youth in the lifelong acquisition of knowledge, skills, and attitudes necessary to pursue meaningful, challenging, and productive career pathways into high-skill, high-wage jobs (Oklahoma Department of Vocational and Technical Education, 1997).

Service Learning - Method by which young people learn and develop through active participation in thoughtfully organized, meaningful service experiences. Successful service learning activities: meet actual community needs; are coordinated in collaboration with the school and community; are integrated into the curriculum; provide participants with opportunities to provide newly acquired skills and knowledge to work in their own communities; and enhance what is taught in school by extending learning beyond the classrooms. (As defined by the Alliance for Service Learning in Education Reform.)

Vocational Education Component - For the purpose of this study, vocational education component refers to a program which prepares graduates to work in a specific

cluster of occupations or for transition into the workplace in general. This may include: enrollment in a regular area vocational-technical school program; a work-site learning program, an apprenticeship or youth apprenticeship program, and service learning.

Work-Site Learning - Consists of work experiences on site in business and industry; a coherent sequence of job training and work experiences that are coordinated with the activities in the school-based learning component; workplace mentoring; instruction in general workplace competencies such as positive work attitudes, employability skills, and participatory skills; and broad instruction in all aspects of a business/industry. The work-based component may include paid work experience, job shadowing, or school sponsored enterprises. Varying levels of academic credit are usually given for work-site learning components (Oklahoma Department of Vocational and Technical Education, 1996).

Youth Apprenticeship - A school-to-work option designed to expose students to work-day realities. Participants spend part of each school week at a work-site and are treated as regular employees. The experience at the work-site provides part of the students' instruction. Youth apprenticeship is an employer/school partnership, preceded by career exploration, integrated academics and structured job training, and work-site experience. Because *youth apprenticeship* is often confused with *registered apprenticeship*, *work-site learning* is becoming a more common term used to describe the student learner's experience (Oklahoma Department of Vocational and Technical Education, 1996).

Organization of the Study

The study is organized in the following manner. Chapter I contains the nature of the research problem, the significance of the study, the research questions that were developed to guide the study, limitations of the study, assumptions of the study, and definition of terms. Chapter II consists of the review of the literature including alternative education, the need for alternative education in Oklahoma, vocational education as a component in alternative education, and broader educational reforms. Chapter III includes the research design and procedures, selection of subjects, data collection, and data analysis. Chapter IV presents the results of the data analysis and Chapter V contains the findings, conclusions, and recommendations.

CHAPTER II

REVIEW OF RELATED LITERATURE

From a review of literature related to this study, the areas of alternative education, the need for alternative education in Oklahoma, vocational education as a component in alternative education, and broader educational reforms were identified as the major components for the development of this study.

Alternative Education

Early school leavers have always been part of the public school experience; however, recognition of the problem of school dropouts only became a serious public issue in the 1960s. It was during this period that major federal legislation with sufficient funding was directed at children based on economic and/or academic needs (Smink, 1997).

The nation's governors joined President Bush in 1989 in creating six national educational goals with one goal specifically directed to the dropout rate. That action caused tremendous excitement about the critical dropout issue, with both legislative and corporate initiatives funding major dropout prevention programs. A great amount of research was generated to help define the profile of the school dropout, the many different causes, and the variety of consequences of the dropout phenomena (Smink, 1997).

According to Duckenfield and Brown (1997), the proportion of unskilled jobs, once comprising the bulk of all jobs, has fallen 20 percent, while the ranks of skilled jobs has risen to at least 60 percent. Therefore, today's dropouts have a more difficult time finding a job compared to dropouts 25 years ago. Many businesses and industries are downsizing due to technological advances. Large numbers of unskilled jobs have shifted to overseas locations. It is very difficult to make a living on the current minimum wage even if a dropout is able to obtain a job. Almost half of all dropouts are unemployed 12 months after dropping out of school (Duckenfield & Brown, 1997).

Morley (1992) states:

> Alternative education is based upon the belief that there are many ways to become educated, as well as many types of environments and structures within which this may occur. Further, it recognizes that all people can be educated and that it is in society's interest to ensure that all are educated to at least...a general high school...level. To accomplish this requires that we provide a variety of structures and environments such that each person can find one that is sufficiently comfortable to facilitate progress. (p. 8)

Alternative schools have recently gone through a revival based on dissatisfaction with the current public school system. This revival has included both parents who feel that the schools are not meeting the social needs of their students, and those who feel that the value system being espoused in the public schools conflicts with what they feel is appropriate (Westberry, 1997).

According to Aronson (1995) the main goal of alternative education is to help students become productive members of society. Furthermore, it assigns a large part of the responsibility for achieving that goal to the school system, suggesting that schools meet students' differing needs rather than expect them to conform to one particular educational environment.

A second goal also drives the need of alternative education programs: the need to remove disruptive influences to create classrooms that are productive and safe. Many educators and policy makers recognize this need, but disapprove of discipline policies that merely facilitate the removal of suspended and expelled students from schools. Such removal often leaves these students without adult guidance or supervision (Aronson, 1995).

According to Aronson (1995) these dual goals—the desire to increase graduation rates and the need to eliminate disruptive or violent students from classrooms without sending them to the streets—has lead many policy makers to embrace alternative education. Three out of five states in the Southwestern Region served by the Southwest Educational Development Laboratory (SEDL) have enacted legislation mandating alternative education. Arkansas, Louisiana, and Texas require every school district to provide an alternative learning environment for expelled and suspended students. A fourth state, Oklahoma, has enacted legislation that supports the creation of alternative programs by awarding grants, evaluating programs for effectiveness and replicability, and providing state validation for those that receive high rankings (Aronson, 1995).

Alternative education has resisted attempts to be defined formally in federal and state law. Alternative education recognizes that every student learns in a different way and in different environments (Antonucci, 1996).

Raywid (1994) states that the history and diverse needs of communities has brought about three distinct program types under the broad category of alternative education. These different types are primarily based upon the specific purpose served by these programs. The three types of programs as described by Raywid (1994) are:

Type I (*True educational alternatives*) - These schools tend to be extremely engaging, challenging and fulfilling for all involved. The curriculum is innovative and creative. These programs reflect significant changes in the typical organizational structure and most closely resemble what are referred to as "charter" or "enterprise school" programs.

Type II (*Alternative discipline programs*) - Students typically will find themselves sentenced to these programs and are viewed as a last resort prior to expulsion. These "last chance" programs for disruptive students focus on behavior modification. They attempt to change students and return them to their traditional classrooms.

Type III (*Therapeutic programs*) - These programs are non-punitive and therapeutic in their approach. The staffs strive for a compassionate and positive orientation with students. They are designed for youth who are in need or remediation or rehabilitation—usually academic and/or emotional. The focus is typically strong on human service support and generate conditions which nurture self-esteem and social/emotional growth.

Raywid's review of the literature suggested that programs of the first type, true educational alternatives, achieve the most success. In contrast, alternative discipline programs rarely lead to substantial gains for students. Therapeutic programs have mixed results: students often make progress while in the alternative programs, but regress upon return to the traditional one.

Recent research in Oklahoma yielded similar results. Although students participating in an alternative education program academically outperformed students not enrolled in a program (suggesting that some intervention is better than none), the results depended on the type of program and its goals. Students in long-term, alternative education programs improved more and performed better than students in short-term alternative discipline programs. Thus, programs designed to be true educational alternatives were most successful in reducing the "at-risk" status of these students (Oklahoma Technical Assistance Center, 1997).

The Need for Alternative Education in Oklahoma

In accordance with the Juvenile Justice Reform Act of 1994, Oklahoma schools participated in a statewide assessment of the need for alternative educational programming (Oklahoma Technical Assistance Center, 1995). According to data reported by the Oklahoma Technical Assistance Center (OTAC) in 1995, the statewide needs assessment finding indicated that 12,157 students in grades six through twelve were being served by some type of alternative education program. However, Oklahoma school districts estimated that an additional 22,464 students in grades six through twelve were also in need of some type of alternative education programming. Since only 87 percent of the state's school districts completed the assessment and submitted it for analysis, the results are a low estimate of the states' need. Statewide totals for the 1994-95 school year are represented in Figure 1 on the following page.

Additionally, data provided by the Juvenile On-Line Tracking System (JOLTS) indicated that 26,345 Oklahoma students between the grades of six and twelve had contact with the Juvenile Services Unit during the 1994-95 school year many of which are represented in Figure 1.

Research indicates that students who have been at-risk in high school remain at-risk in life. A Phi Delta Kappa collection of case studies of students at-risk (Strother, 1991) indicated that such individuals learn to fail and tend to repeat the practice, at least in the time following closely after the study. Without systematic intervention, at-risk youth rarely achieve their potential. The traditional ways of preparing for and finding employment are not effective for at-risk youth because those youth often lack the basic skills required by the workplace, they do not have organized job networks, and they are

faced with overt and covert discrimination in finding and securing employment (Feichtner, 1989). Feichtner added that the at-risk population will be especially vulnerable in the *musical chairs* employment arena for they often lack the skills employers seek. According to Duttweiler (1994), if the United States is to regain its competitive edge, our public schools must better prepare students, especially students in at-risk situations, for a changing workplace. A recent report by the U.S. Department of Labor stated that more than half of the students leave school without the knowledge or foundation required to find and hold a good job.

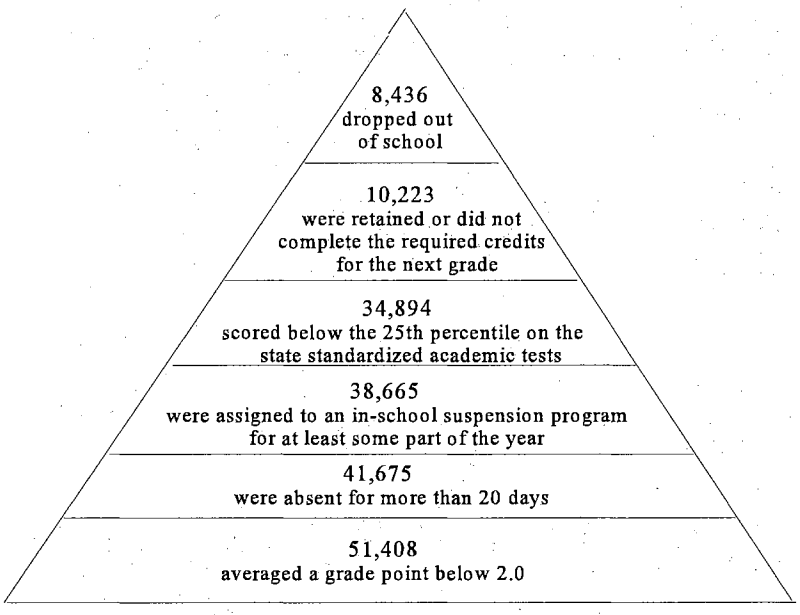

Figure 1: 1995 Oklahoma Assessment Data for Grades 6-12

Government *directly* receives a benefit of $81,000 for each potential dropout that eventually graduates from high school and $86,000 in productivity over the lifetime of the individual. If the 8,436 students who dropped out of Oklahoma's schools during the 1994-95 school year were recovered and obtained their high school diploma, a conservative estimate of their lifetime economic contribution to society would be one

billion dollars. The monetary loss due to dropouts is represented in Table I (Oklahoma Technical Center, 1997).

TABLE I

LOST DOLLARS DUE TO DROPOUTS IN OKLAHOMA

Lost tax revenue $70,000 x 8,436 dropouts	$ 596,501,12
Increased government services $10,270 x 8,436 dropouts	$ 86,637,720
Lost productivity: $86,000 x 8,436 dropouts	$ 725,496,000
Total lost economic benefit to society	$1,408,634,840

Additionally, the estimates listed in Table II on the following page are based on empirical evidence about the benefits that accrue from alternative schooling (Oklahoma Technical Center, 1997). The estimates may understate the benefits of alternative schools because they do not include other benefits such as keeping teachers in the profession, reducing drug and alcohol use, lowering teen pregnancy rates, and preventing injury and property damage by reducing crime.

Proponents of alternative education claim that it dramatically improves the academic achievement and behavior of dropouts and potential dropouts. Reports from research and practice support these claims (Raywid, 1990; Cormier, et al., 1991; Morley, 1991; Rogers, 1991; Bryant, 1993; Kershaw & Blank, 1993; New Futures for Little Rock Youth, 1993; Kadel, 1994; Oklahoma Technical Assistance Center, 1997). Also, according to Young (1990), research on alternative schools indicated positive results for some students that probably would not have occurred through conventional schooling.

TABLE II

MONETARY BENEFIT TO THE PUBLIC OF ALTERNATIVE EDUCATION

Annual Cost of Alternative Schools (per student served)	Annual Benefit to the Public (per student served)
Total Cost = $7,000 per student served	$14,000 in student learning time that would have been lost $2,800 in reduced grade repetition $600 in increased tax revenue $1,750 in reduced welfare costs $1,500 in reduced prison costs Total Benefits = $20,650 per student served

Young (1990) identifies the following positive results from studies of alternative schools:

1. Increased attendance
2. Decreased dropouts
3. Decreased truancy
4. Fewer student behavior problems
5. Increase in earned credits
6. High satisfaction of social needs
7. Positive attitudes toward schools
8. Productivity in the community after graduation
9. Increased parent involvement

Although the research is not ideal or comprehensive, it suggests that students in alternative education programs do indeed perform well academically. A well designed, large-scale project in Oklahoma revealed that students in alternative education programs improved on a variety of academic outcomes, including grades, attendance, number of courses failed, and disciplinary referrals (OTAC, 1995).

Individual alternative programs in a variety of rural and urban communities in California, Michigan, New York, and Oregon also reported student improvement on

several academic measures, including attendance, dropout rates, grades, and test scores (Butchart, 1986). Alternative schools also report reduced discipline problems and violence (Butchart, 1986). Additionally, the effects of alternative education seem to extend beyond the school years. A 1990 survey of dropouts who had returned to school and graduated from an alternative education program in Iowa suggested that alternative education graduates do tend to become productive citizens after graduation (Morley, 1991). One hundred percent of the graduates from the Community Alternative School in Camden, Maine have worked since leaving the school, with 85-90% of non-homemakers or postsecondary students holding full-time jobs. Forty-five percent of their graduates have gone on to postsecondary education (Pariser, 1996).

Further, a survey of Iowa's alternative school graduates (dropouts who returned and graduated from an alternative school) by Veale (1990) indicated very positive results regarding the productivity of alternative school graduates in the community. Eight measures of productivity were assessed including income generated via employment, postsecondary education/training, volunteer activities, participation in the political process, homemaking/child rearing, talents and skills not used on the job, public assistance involvement, and penal system involvement. The study also assessed behaviors determined critical in competitive work. The results indicated that the financial investment in alternative education does benefit the state compared to other long term potential costs of dropouts and that alternative school graduates are productive citizens when assessed across all eight criteria used to define productivity.

The President proposed $250 million in his fiscal year 1998 budget for out-of-school youth because the problems of this population exact an enormous cost to society.

More than half of out-of-school young people in many of our country's inner-city neighborhoods currently have no jobs, and school dropout rates in these areas can exceed 60 percent (Uhalde, 1997).

Many dropouts who have been unable to get a job join the welfare rolls. High school dropouts were more than twice as likely to receive income from Aid for Dependent Children (AFDC) or public assistance as high school graduates who did not go on to college (Duckenfield & Brown, 1997). According to Duckenfield & Brown, eighty-two percent of America's prisoners are high school dropouts. The economic impact is enormous. The average cost per year to educate a child is $4,000 in the public school system while it costs an average of $20,000 per year to maintain a prison inmate (Duckenfield & Brown, 1997).

Representative Hager (1997), Chair of the House Education Committee in Oklahoma lamented, "In Hominy, Oklahoma at the Conner Correctional Center, more than 62 percent of the inmates don't have a high school education. We need to take students who are at-risk and bring them up to speed so that they have the opportunity to succeed in the educational process" (p. 2). Hager (1997) agreed, however, that the relatively new alternative education program system in Oklahoma needs some refinement. He along with Representative Begley, Chair of the Education Appropriations and Budget Subcommittee in Oklahoma, co-authored *House Bill 1970* to address some concerns. Hager (1997) stated, "We need input from around the state in our efforts to review and revise the statutes (dealing with alternative education)" (p. 2). The National Education Goals (1995) addressed the dropout problem in the United States. Goal number two is *School Completion:* By the year 2000, the high school graduation rate will

increase to 90 percent. According to The National Education Goals (1995), 2,217 teenagers dropout of school each school day; of the U.S. prison population in 1992, half were high school dropouts.

Likewise, Senator Williams (1997), Chair of the Senate Education Committee in Oklahoma, stated that there are three strong purposes for alternative education:

1. Addressing the needs of students who have dropped out of school or who are in danger of not succeeding—students who, in the conventional classroom, are not feeling successful;

2. Working with young people who are adjudicated delinquent or referred by the court or Oklahoma Juvenile Authority—a distinctly different population and one in need of different approaches.

3. Offering the potential for innovation to discover new ways to educate students.

Vocational Education as a Component in Alternative Education

According to Hamby and Monaco (1993) educators and leaders in business, government, and the public sector are attempting to provide a comprehensive, effective education for all students by designing a new approach to education which will:

1. Eliminate the educationally-embarrassing general track which leads students into an academic and vocational dead end.

2. Improve the connection between school and work in this country, which has the worst school-to-industry transition program of any industrialized nation.

3. Integrate academic and vocational curricula to enhance the relevance of course content to work.

4. Make school more relevant, caring, responsive, and student-centered for the large number of students not academically gifted or college bound.

Enhanced Vocational Education (EVE) is a concept which combines these ideas with the findings of a three year project funded in ten demonstration sites throughout the country by the United States Department of Education, Office of Vocational and Adult Education (Hamby & Monaco, 1993). EVE represents an expanded vision of vocational education that actively seeks change in curriculum, methods, and the students it serves. This approach is a combination of the best aspects of vocational education and proven dropout prevention practices. It offers hope to many students who often view the future with despair (Hamby & Monaco, 1993). EVE is vocational education that not only has moved into the mainstream of education; it is on the cutting edge in serving those students who traditionally have been turned off by education and alienated from school (at-risk students). Enhanced Vocational Education contains components that comprise many current alternative education programs such as: applied academics; employability skills training; vocational/technical education; counseling; flexible scheduling; and community collaboration.

Successful alternative education programs vary in their specific features because program creators design each one to meet the needs of a unique student population. Developing a prescription that will guarantee the success of any program, therefore, is an impossible task (Aronson, 1995). However, proponents have extracted several general features that are considered central to success (Butchart, 1986; Jacobs, 1994; Kadel, 1994; Kershaw & Blank, 1993; Morley, 1991; Raywid, 1994; Rogers, 1991). One of those identified features common to successful programs was the inclusion of experiential learning and vocational components to link what students learn in school with their future life and work (Aronson, 1995). In addition, a new report from the

National Governors' Association says communities trying to serve school dropouts should integrate academic education with vocational education (Brown, 1997).

The *Unfinished Agenda*, a report prepared for the National Commission on Secondary Vocational Education (1984), stated: "Vocational education is both a body of knowledge and an educational process, but the educational process has not received the degree of attention it deserves" (p. 6). Vocational education processes that connect the school curriculum with *real-life* issues afford the at-risk student population a potential advantage in becoming a full partner in the development of America's world-class workforce (Schell & Babich, 1993).

After 2 ½ years with its alternative education program, Choctaw-Nicoma Park Public Schools in Oklahoma progressed from a 6 percent to a 2.2 percent dropout rate (Oklahoma Technical Assistance Center, 1997). The data represented going from the *highest* dropout rate in Oklahoma County to the *lowest* dropout rate in Oklahoma County. The Choctaw Alternative Transitional School (CATS) incorporates several vocational components into their program. In addition to students attending core classes four evenings a week, each student is required to be involved in a daytime vocational component. Students, through an assessment process, were enrolled in the area vocational-technical school, a work-site learning program, or a service learning program. The work-site learning and service learning placements involved matching student career goals to certain jobs or agencies. Employers and service agency personnel were required to complete periodic assessments and evaluations on students related to educational goals and objectives.

Research has demonstrated that service learning has great potential for delivering important educational outcomes. Students involved in such programs show improvement in areas of intellectual, social, and psychological development (Shumer, 1996). According to Shumer (1996), service learning connected to vocational education improves its effectiveness, too. Programs that include tangible service, such as child care, food preparation, tutoring, health care, and residential repair have proven successful results. Student motivation is enhanced, as is the ability to connect academic subjects and skill development with community improvement. In summary, Shumer (1996) states, "of the many educational reforms that have been proposed, service learning has perhaps the greatest potential to deliver important outcomes necessary for the next century" (p. 53).

Service learning has vocational education written all over it. "Vocational education has been doing it for years," says Samuel Halperin, co director of the American Youth Policy Forum in Washington D.C. (Lozada, 1998, p. 28). Vocational educators have been taking their knowledge of a career and providing service to the community—and not calling it national or community service. The challenge for vocational education teachers is to integrate the reflection piece. Service learning has three components—preparation, action, and reflection—and for some vocational teachers the reflection component is the new piece (Lozada, 1998). There is limited hard data on the effects of service learning on students but a 1995 national survey indicated 95 percent of the high school students polled said service learning should be a part of their schooling (Lozada, 1998).

In addition, Carter (1998) states, "After years of working in the field, I am convinced that service learning is one of the most powerful instructional strategies I have ever witnessed. Service learning is allowing students who do not do well, as measured by traditional instruments, to succeed" (p. 3).

One educational initiative that incorporates aspects of vocational education found in successful alternative education programs is the *School-to-Work Opportunities Act of 1994.* School-to-Work is a system which helps young people to progress smoothly from school to work by making connections between their education and a career. Every school-to-work opportunity system must contain three core elements known as school-based learning, work-based learning, and connecting activities. School-based learning is classroom instruction based on high academic and occupational skills standards. Work-based learning is work experience, structured training, and mentoring at job sites. Connecting activities develop courses that integrate classroom and on-the-job instruction, match students with participating employers, train job-site mentors, and build and maintain bridges between school and work (Oklahoma School-to-Work System, 1996). Current U.S. Secretary of Education Richard Riley pointed to School-to-Work as a way to retain dropouts and better prepare students for community college. Riley noted that School-to-Work develops links with business and gives students real world experiences as well as links to community colleges (Hudelson, 1997). Additionally Uhalde (1997), Assistant Secretary of the Employment and Training Administration, U.S. Department of Labor stated, "School-to-Work is helping prepare our young people to be top-notch learners and employees for the 21st century economy." He adds, "This partnership among educators, employers, parents, students, and others makes curricula more relevant, offers

mentoring and internships and gives students a taste of different careers and broad, transferable work skills without tracking them into particular occupations" (p. 37).

A sound high school education that leads to a good job and a technical/collegiate education that results in a productive and satisfying life is the promise of the *School-to-Work Opportunities* initiative. Each year, 20 percent of all the nation's at-risk school-age children drop out of high school without job skills. One in five American children—one fifth of our future front-line workforce—is born in poverty (Oklahoma School-to-Work System, 1996). Many American children fail to believe that their school performance will greatly influence their later life. This is the strength of a school-to-work initiative which connects school performance with life and work (Oklahoma School-to-Work System, 1996).

Many potential dropouts hold jobs in addition to their enrollment in high school. Between 40 and 60 percent of high school age students are working at any one time; for most there is no connection between school and work. A well designed school-to-work system can make this connection for students and give meaning to staying in school (Oklahoma School-to-Work System, 1996).

Feichtner (1989) stated:

> The school-to-work transition process is inexorably bound to keeping students in school and helping them develop the skills employers need. When the process breaks down, the result is unemployment or underemployment, poverty, and public assistance. The unemployment and underemployment problems of at-risk youth are significant enough to the nation's economy (a one percent increase in unemployment increases the federal outlay by 64 percent) to merit legislative consideration of mandating systematized school-to-work transition process for all at-risk youth. (p. 10)

The current school-to-work transition program, however, has a number of program and service barriers that compound the societal barriers faced by at-risk youth. The greatest barrier to effective school-to-work transition for at-risk youth is the lack of a mandated systematic process for delivering school-to-work transition services (Feichtner, 1989).

A large body of research shows that vocational education provides the kinds of educational experiences needed by a diverse future work force. Studies of the relationships between student characteristics and effective teaching methods have underscored the value of vocational education concepts and strategies in helping those who traditionally have not had much success in school (Hamby, 1992).

For example, at-risk students who earn more vocational credits in an occupational specialty (rather than in early exploratory or work study programs) are more likely to graduate from high school (Weber, 1987). Disadvantaged minority students who took at least a four-credit vocational education program and found employment related to that program gained important labor market advantages (Gray, 1991).

According to Hamby (1992), this is the time when our nation's economy has the greatest need for what vocational education has to offer—at least the kind of vocational education that is helping students with diverse backgrounds and different learning styles. With a history of solving problems in the real world, vocational educators are in a unique position to lead education reform into the 21st century.

As beneficial as vocational education may be for all students, its potential for "at-risk" students requires further study and validation. This was the rationale behind the Office of Vocational and Adult Education's decision to initiate the Vocational

Educational Cooperative Demonstration Project. Ten projects were selected in 1989 to supply experiential data that clearly demonstrates vocational education's role in meeting the needs of at-risk students. The major goal of this program was to demonstrate vocational education's role in dropout prevention. (Hamby, 1992).

The projects were administered in entirely different school settings and were spread out across the regions of the United States. Program requirements specified that the projects were to be located in communities with high dropout rates, test a variety of dropout prevention strategies, and be capable of widespread replication. In some sites a 90% retention and graduation rate was achieved (Hamby, 1992). Each one of the ten projects reported various gains in student achievement involving a variety of variables. Hamby (1992) states:

> The message is encouraging and reverberates through each one of the ten demonstration sites. Leaders in vocational education have been instrumental in developing comprehensive dropout prevention programs in their schools and in their communities. These leaders have contributed to the restructuring process and should continue to take the lead in planning and implementing additional programs for students "at-risk." (p. 32)

Broader Educational Reforms

Much of the current literature about school restructuring focuses on administrative restructuring (e.g., site-based management, inclusive school governance, decentralized budgeting). By removing many bureaucratic impediments to innovation, administrative restructuring seeks to empower teachers and administrators to acknowledge local students' needs, devise programmatic responses, and, in general, create the successful schools of the future (Rutter & Margelofsky, 1997). Rutter & Margelofsky (1997) add:

> We seem to be guided primarily by a faith—that once teachers and others are empowered to create, they will succeed. In practice, it seems highly unlikely that newly empowered teachers can bring about the authentic restructuring of schools without drawing on the ideas, visions, observations, and experiences of others, especially as those experiences differ from their own. Inquiries into the deep structure of schooling, like those undertaken by researchers examining the school experiences of *youth at-risk,* therefore, remain central to achieving "real" restructuring (i.e., removing all structural barriers to student achievement). Educators need to continue to identify problematic structures within conventional comprehensive schools and examine promising practices where alternatives exist." (p. 3)

According to Carter (1998), one of the primary purposes of education reform is to enable at-risk students to succeed. Schools must empower students toward success rather than disable them, which is the foundation of alternative education. Education reform should include a recognition and implementation of teaching strategies that deal with the "theory of multiple intelligences" along with school-to-work transition programs and community service learning (Carter, 1998). A major survey of high school restructuring in all accredited secondary schools finds that 65 percent of the schools have school-to-work transition programs either "in general use" or "partially implemented" (Alger, 1997).

Clinchy (1998), with the institute for Responsive Education in Boston, identifies a counter-movement to Goals 2000 (which he calls another version of the "authoritarian, factory-model school system") aimed at decentralizing and democratizing the public school system. Signs of this movement, he says, are magnet schools; the movement to create charter schools; and, more recently, a movement by districts toward creating small, in-district autonomous schools similar to some alternative schools. Clinchy believes that

the latter movement provides a blueprint for a new, democratic, and more successful system of public education.

Alternative education is predicated on the idea that the existing educational system serves most students effectively, so only a few who are not succeeding need alternative education. Thus, alternative education assumes minimal failure in traditional schools. However, some school data suggests a more extensive problem. Research from Little Rock, Arkansas revealed that in 1989 to1991 more than two-thirds of the students enrolled in junior and senior high schools in this urban area showed indications of academic difficulty, including course failure, grade retention, dropout, suspension, expulsion, and low standardized test scores (New Futures for Little Rock Youth, 1993).

Clearly, all of these students cannot be placed in alternative environments, and placing only some is but a partial solution. Many more students who are at-risk remain in traditional classrooms where they are most likely under-served (Aronson, 1995). Aronson (1995) stated that the removal of most of the disruptive students may give practitioners false confidence in the effectiveness of the existing educational program for the remaining student population. He adds that one particular group that teachers may overlook are the quiet, underachieving students.

In addition, the idea of further segregating the student body seems antithetical to the trend toward heterogeneity within schools and classrooms. Segregating a particular student group has been shown repeatedly to have negative effects. Ironically, the emergence of separate education for students at-risk of educational failures occurs as advocates of special education students argue for increased main streaming or inclusion (Jordan & Jordan, 1995).

If the traditional system fails many more students than those targeted for alternative settings, and if creating a separate alternative education system negatively affects the rest of the system, then policy makers may need to reconsider the efficacy of an alternative school strategy. Aronson (1995) suggests confronting the failures of the traditional system may be a more successful approach. He states the system might better serve all students by addressing the root causes of student learning problems and creating more feasible teaching and learning environments within regular classrooms and schools. Such changes may diminish negative outcomes allowing more students to succeed within regular schools. Clearly, what alternative schools provide would benefit all students, not just those at-risk of dropping out. The vision of "alternatives for all" is seen in the rapidly growing number of alternative educational delivery systems. Freijo (1997) adds, "Perhaps an indication of waning confidence in the public schools is the growing interest in alternatives to public schools such as charter schools, school choice, privatization, and home schooling" (p. 4). Freijo states that nearly half of all charter schools are focused on the needs of dropouts and at-risk students.

The best features of alternative schools could be incorporated into regular schools. While establishing separate alternative schools for some students incurs high costs; incorporating features such as parent programs, summer school, mentoring programs, and providing access to health and social services in the regular school may be cost effective and could help alleviate many of the problems faced by students in at-risk situations (Jordan & Jordan, 1995). The disconnection of schooling to what is happening in the lives of students and to the roles they will occupy as adults has helped stimulate interest in alternative schools. More and more parents and business people see alternatives such

as charter schools, as being more responsive to the real-life based needs of learners (Westberry, 1997).

As stated by Aronson (1995), establishing alternative schools and programs should not divert attention away from the shortcomings of traditional schools. Rather, because effective alternative schools share many features with exemplary schools, policy makers could view the ideal alternative school as a model and use it to initiate overall educational reform.

Aronson (1995) further summarizes that in light of the facts that: (1) long term, true educational alternatives represent the most successful kinds of alternative schools; (2) many of the features and goals associated with successful programs would benefit all students; (3) traditional schools do not effectively serve many (if not most) students; and (4) costly alternatives pull money away from the regular schools, policy makers may want to explore how their states and districts can better spend their educational resources. It may be wiser and more effective to reduce the number of students who the system is failing, rather than create a separate system for only a few of them.

According to Duttweiler (1995), The National Dropout Prevention Center advocates a comprehensive, systemic approach to educational reform based on the following three areas:

1. The educational system must be restructured to be more congruent with the needs of those who work in it and the needs it serves.

2. The problems faced by children in at-risk situations are the collective responsibility of everyone: Government, businesses, community organizations and agencies, parents, and the schools. All must join together to provide the social support needed to ensure resiliency in children.

3. The technical core of the school—teaching, learning, curriculum, and instruction—must engage children in learning. Effective prevention,

mediation, and intervention strategies must be adopted to meet the needs of students in at-risk situations.

Covington (1992) argued that the potential dangers in trying to fix the present system are greater for the failure-prone child, the under-prepared, and those disenfranchised youngsters from underclass ghettos and barrios. He adds that it is imperative that we change those school practices which place students at-risk of failure. As educators, it is our job to create an enriching, culturally sensitive, relevant, and active environment for all children. Educators must not just write vision statements that parrot the phrase, "all children can learn;" we must shape our classrooms, our schools, and our districts so that it becomes a reality (Covington, 1992).

According to Smink (1997), what we don't know enough about is how to gain the full commitment from all components of our society to place a higher value on education and make a concerted effort to increase the graduation rate. He adds, "it remains too easy for all groups in our society to turn their heads and allow students to just walk out of school" (p. 2). The elimination of school dropouts will be accomplished only when a systemic approach to teaching and learning is accepted as part of the regular schooling culture. This vision calls for major school reforms and a concerted effort by legislators, corporate and school leaders, and the general public (Smink, 1997).

Morley (1991) states that alternative education is a sign of excellence in any public school system and community. He stressed that alternative education is a means for addressing the transformation of our schools. Morley (1991) adds, "alternatives within education provide an excellent perspective for use in school restructuring" (p. 5). Senator Williams (1997), Chair of the Senate Education Committee in Oklahoma believes alternative education offers the greatest potential for educational innovation.

Williams (1997) stated, "Eric Severaid referred to America as *the experimental laboratory of the 20th Century*. I think alternative education can be Oklahoma's experimental laboratory for education in the 21st century" (p. 2).

Summary

Chapter II provided a review of the literature and research relative to alternative education, the need for alternative education in Oklahoma, vocational education as a component in alternative education, and broader educational reforms. Examination of the literature reveals an abundance of anecdotal evidence regarding the success of alternative education programs, but an absence of well designed, scientific research. Much of the work on alternative education programs explores their organizational structure and processes, rather than their outcomes for students. Moreover, when student outcomes are researched, the evaluation design often limits the study's usefulness. Many studies examine a single school or program, thus limiting the generalizability of the results. In addition, many studies often fail to include comparison groups, do not use objective outcome measures, and/or do not provide pre-program baseline data making it difficult to draw conclusions regarding effectiveness of programs. Furthermore, some research combines different types of programs (for example, some may include magnet schools in a study of dropout prevention programs), thus creating ambiguous data.

Although most of the research on alternative education is not ideal or comprehensive, it does suggest that alternative education programs improve academic achievement and behavior of dropouts and potential dropouts.

The review of literature revealed several areas pertinent to alternative education and the role of vocational education in these initiatives. Educators, as well as government officials at the local, state, and national level, have recognized the need for alternative education. This recognition is based on the belief that there are many ways to become educated, as well as many types of environments and structures within which this may occur. State and Federal legislative Acts have emphasized and in some cases mandated the implementation of alternative education programs. This is the case in Oklahoma. Oklahoma schools began implementing a five-year alternative education plan in 1996-97. The plan is designed to make Alternative Education services available to all students who require them by the school year 2000-2001.

Because of the rapidly changing technological workplace and the decline of unskilled jobs in America, the importance of dropout prevention is even more critical. The economic impact of dropouts is enormous. Between 60 and 75 percent of all incarcerated persons in this country are school dropouts. It costs five times more money per year to maintain a prison inmate as opposed to educating a child. Without systematic intervention, at-risk youth rarely achieve their potential.

Alternative education programs have the flexibility, freedom, and deregulatory power to explore different types of delivery systems. Alternative education programs have the opportunity to be the proving ground for educational reform. Successful alternative education programs may vary in their specific features because program creators design each one to meet the needs of a unique student population.

Vocational education by the very nature of its educational components and delivery system has been successful with at-risk students. As beneficial as vocational

education may be for all students, vocational education is especially effective for students with diverse backgrounds, different learning styles, personal needs, career aspirations, and various home conditions. Research indicates that vocational education provides the kinds of educational experiences needed by a diverse future workforce (Hamby, 1992). One educational initiative that incorporates aspects of vocational education found in successful alternative education programs is the *School-to-Work Opportunities Act of 1994.* School-to-Work is a system which helps young people progress smoothly from school to work by making connections between their education and a career which is vitally important for "at-risk" students.

The review of literature indicates that establishing alternative schools and programs should not divert attention away from the shortcomings of traditional schools. Rather, because effective alternative schools share many features with exemplary schools, policy makers could view the ideal alternative school as a model and use it to initiate overall educational reform.

CHAPTER III

RESEARCH DESIGN AND PROCEDURES

Introduction

The purpose of this study was to determine if the integration of vocational education components into alternative education programs in Oklahoma had a significant impact on student achievement as measured by selected variables.

Chapter III is divided into five main sections:

1. Research Design
2. Selection of Subjects
3. Instrumentation
4. Collection of Data
5. Analysis of Data.

Research Design

A survey of prior research involving the integration of vocational education components into alternative education revealed a great deal of anecdotal evidence regarding the success of these programs but was void of well designed scientific research. This is significant in that vocational education by the very nature of its educational components and delivery system has been successful with at-risk students (Hamby,

1992). He adds, that as beneficial as vocational education may be for all students, vocational education is especially effective for students with diverse backgrounds, different learning styles, personal needs, career aspirations, and various home conditions. Research shows that vocational education provides the kinds of educational experiences needed by a diverse future work force, especially those who traditionally have not had much success in school (Hamby, 1992).

This was a two-part study. The research design selected for part one of this study used the quasi-experimental pre-test/post-test two group design with a purposive sample of alternative education students to provide a comparison of the effects of vocational education components and non-vocational components on alternative education students in the State of Oklahoma. A quasi-experimental design, much like an experimental design, attempts to establish cause and effect by the researcher manipulating at least one independent variable and observing the effect on one or more dependent variables (Shavelson, 1988). Kerlinger (1986) explained purposive sampling as a type of non-probability sampling, which is characterized by the use of judgement and a deliberate effort to obtain representative samples by including typical areas or groups in the sample.

Campbell and Stanley (1966) diagram the study as follows:

Group A **O ——X—— O**

Group B **O ———— O**

The null hypothesis tested was H_o: There are no significant differences, in terms of selected variables, among students in alternative education programs in Oklahoma

with vocational education components, as compared to students in alternative education programs in Oklahoma without vocational education components.

The research design selected for part two of this study used a restricted form questionnaire with a purposive sample of alternative education students to provide a comparison of placements among students in alternative education programs with vocational education components, as compared with students in alternative education programs without vocational education components. The questionnaire is most frequently a very concise, pre-planned set of questions designed to yield specific information to meet a particular need for research information about a pertinent topic (Engelhart, 1972).

Campbell and Stanley (1966) diagram the study as follows:

Group A **X —— O**

——

Group B **O**

The null hypothesis tested was H_o: The are no significant differences, in terms of placements, among students in alternative education programs in Oklahoma with vocational education components, as compared with students in alternative education programs in Oklahoma without vocational education components.

For part one of the study, fourteen public high school alternative education programs in Oklahoma were selected, seven with vocational components and seven without vocational components.

Each of the fourteen selected alternative programs collected data using a pre-/post-program procedure on five selected variables. The pre-program data were

collected from the most recent semester completed by the student prior to entry into their respective alternative education programs. The five variables were: (1) prior year grade point average; (2) number of courses passed in prior year; (3) number of overall absences in prior year; (4) instructional days missed due to disciplinary suspension in prior years; and (5) standardized academic test scores.

According to the Oklahoma Technical Assistance Center (1994), the five variables used in order to provide a comprehensive evaluation of the effectiveness of alternative education programs were based on a review of literature which cites these five factors as highly related to dropping out of school. The evaluative hypothesis was that successful alternative education programs should have a significant impact on at least some of these variables.

The same data were collected at the end of the school year. The Tests of Basic Adult Education (TABE) was used as the standardized academic test instrument. The TABE was used as the pre-test as students entered their respective alternative education programs and as the post-test at the end of the school year. Gain scores were analyzed to determine the effects the independent variable (vocational components) had on the five dependent variables (prior year grade point average; number of courses passed in prior year; number of overall absences in prior year; instructional days missed due to disciplinary suspension in prior years; and, standardized academic test scores).

Part two of the study was a comparison of placements from the fourteen selected high school alternative programs, seven with vocational components and seven without vocational components. Successful placement was defined as job attainment (30 or more hours per week), entry into post-secondary education, or entry into the military. Seniors

who successfully completed their respective alternative education programs, from each of the fourteen alternative schools, were mailed a questionnaire approximately three months after exiting their program regarding their placement status. Placements were analyzed to determine the effects the independent variable (vocational components) had on the dependent variable (placements).

Selection of Subjects

The population for the study included secondary students in grades nine through twelve enrolled in Oklahoma alternative education programs. The total number of secondary students in grades nine through twelve enrolled in Oklahoma alternative education programs from August 1997 to May 1998 was approximately 5,500. Population data were supplied by the Oklahoma Technical Assistance Center (OTAC) in Cushing, Oklahoma. The selection of the fourteen alternative programs used in this study was made by OTAC.

OTAC was commissioned by the Oklahoma State Department of Education for the purpose of regulating, collecting data, and evaluating alternative education programs in the State of Oklahoma. OTAC selected these sites based on factors such as grade of students, size and geographic locations, and structure of programs to match schools as similar to each other as possible for the two groups. An equal number of rural, urban, and large metropolitan schools were selected for each of the two groups. Size was defined by the population of the town in which the schools were located. For the purpose of this study, rural was defined as any location with a population of 12,000 or less; urban

was defined as any location with a population of between 12,001 and 50,000; and metropolitan being defined as any location with a population of 50,001 or more.

A purposive sampling technique was used to select the subjects based on Kidder and Judds' (1986) rationale that cases are selected which are typical of the population in which we are interested. The total sample size was 671 which included 344 students enrolled in seven alternative schools with vocational components and 327 students enrolled in seven alternative schools without vocational components. Of the 344 students enrolled in alternative schools with vocational components, 52 students were ninth graders, 66 students were tenth graders, 89 students were eleventh graders, and 137 students were twelfth graders. Of the 327 students enrolled in alternative schools without vocational components, 46 students were ninth graders, 71 students were tenth graders, 71 students were eleventh graders, and 139 students were twelfth graders.

Subjects enrolled in alternative schools with vocational components comprised the experimental treatment group. OTAC selected the experimental group of alternative schools based on factors such as grade of students, size and geographic locations, and structure of programs to match the control schools with the exception of the vocational components.

Subjects enrolled in alternative schools without vocational components comprised the control group. OTAC selected the control group schools based on similar factors as the experimental schools with the exception of the vocational components.

Instrumentation

The instrument used in measuring the pre-/post-test gain scores on academic achievement was the Tests of Basic Adult Education (TABE), Forms 5 and 6 by CTB/McGraw-Hill. According to CTB/McGraw-Hill (1987), the TABE, Forms 5 and 6 are norm-referenced tests designed to measure achievement in reading, mathematics, language, and spelling — the subject areas commonly found in adult basic education curricula. TABE, Forms 5 and 6 focus on the basic skills required for a person to function in society. The TABE will also give a predictive General Equivalency Degree (GED) score on the following: science; social studies; writing; language arts; and math. The TABE is often used as a pre-/post testing instrument to measure academic growth. The percentile scores range from 0 to 100 with higher scores indicative of stronger mastery.

The TABE was administered as a pre-test when students entered their respective alternative education programs and as a post-test at the end of the school year. The pre-/post-tests were administered by a counselor or classroom teacher in each of the fourteen schools used in the study.

The Tests of Adult Basic Education Technical Report (1987) lists reliability estimates that range from .65 to .91. Reliability and validity for the instrument is viable for the sample.

Collection of Data

The study and data collection process was approved by the Oklahoma State University Institutional Review Board, approval number ED-98-089 (Appendix A).

The process of obtaining data from the fourteen schools chosen by OTAC for this study began in the spring of 1998. For convenience, OTAC was used in this study as the data collecting agent for part one of this study. Appropriate staff at OTAC were contacted about the study and given a detailed orientation regarding its scope, rationale, and procedure. The researcher also contacted the fourteen alternative school directors used in the study by phone and gave a detailed orientation regarding the scope, rationale, and procedure of the study. In April of 1998, the researcher mailed a letter (Appendix B) to the fourteen alternative school directors requesting permission for OTAC to release student data to the researcher with the understanding that the names of schools and names of students would not be used in this study. All fourteen participating schools complied with this request and provided OTAC with the release statement.

All alternative education programs in the State of Oklahoma, administered by OTAC, are annually required to collect and submit to OTAC student data on the following five variables: (1) prior year grade point average; (2) number of courses passed in prior year; (3) number of overall absences in prior year; (4) instructional days missed due to disciplinary suspension in prior years; and (5) standardized academic test scores. These five variables were used as the measurable dependent variables in the study.

Each of the fourteen selected alternative schools collected pre-program data by using the most recent semester completed by the student prior to entry into their respective alternative education programs on four out of the five previously mentioned variables with the exception being standardized academic tests scores. The standardized academic test scores were collected as a pre-test when students entered their respective alternative education programs.

The same data were collected at the end of the school year in May 1998, including an additional standardized test score from the TABE which was used as the post-test.

OTAC provided pre-/post-program data on 671 subjects from the fourteen participating schools in July of 1998. OTAC provided the researcher pre-/post-program data only on students who successfully finished the school year.

For part two of the study, in May of 1998, each of the directors from the fourteen participating alternative schools was mailed a letter regarding the collection of mailing addresses from graduating seniors (Appendix C). Also included in this mailing was a letter of general instructions to graduating seniors (Appendix D) and a consent form (Appendix E) requesting their permission for a follow-up placement questionnaire to be mailed to them approximately three months after their graduation. Two hundred and twenty-five subjects out of a possible 276 gave consent to be mailed a post-program questionnaire. The non-participants did not give reasons as to why they choose not to participate in the survey. This represents 82 percent of possible subjects. Of these 225 subjects, 114 were from alternative schools with vocational components and 111 were from alternative schools without vocational components. In August of 1998, a letter of instructions (Appendix F) and questionnaire (Appendix G) was mailed to 225 senior program completers. The questionnaires were color coded to ascertain whether the respondent was a graduate from an alternative school with vocational components or an alternative school without vocational components. The questionnaires were also numbered to match a number assigned to the address of each of the subjects for the purpose of sending a non-respondent follow-up letter.

A total of 141 subjects initially responded to the questionnaire from mid-August 1998 to mid-September 1998. This represented a 61.7 percent response. A follow-up letter (Appendix H) and additional questionnaire were mailed to non-respondents in mid-September of 1998. A return of 13 additional questionnaires was received by the end of September 1998. The total number of returned questionnaires was 152. This represents 67.5 percent of the sample selected. According to Engelhart (1972), this is an adequate sample size and return to investigate the given effect of the variable being treated. The data collected from the retrieved student placement questionnaires were entered onto a tracking form (Appendix I) for coding to maintain confidentially of the schools and subjects.

Analysis of Data

In part one of the study, the data collected from the fourteen participating alternative schools were provided to the researcher in the form of a software database for sorting and analysis. The fourteen alternative schools who participated in this study were identified as school A, B, C, D, E, F, G, H, I, J, K, L, M, and N for the purposes of confidentiality. Alternative schools with vocational components were assigned letters A through G and alternative schools without vocational components were assigned letters H through N. The statistical program Statistical Analysis System (SAS) was used to provide descriptive statistics and to perform statistical Analysis of Variance (ANOVA), and the Tukey Studentized Range HSD (honestly significant difference) Tests. The General Linear Models (GLM) procedures subroutine was used in statistical analysis of

ANOVA. The GLM procedure uses the principle of least squares to fit linear models (SAS, 1994).

Descriptive data to describe the population included grade, size of school, and whether the subject attended an alternative education program with vocational components or an alternative education program without vocational components.

ANOVA was used to compare the pre-/post-program data on the selected variables of the alternative schools with vocational components with the alternative schools without vocational components by grade categories and by size of school categories.

According to Leedy (1997), ANOVA is the most widely used test for comparing two or more groups at a time in behavioral science. Shavelson (1988) described the purpose of one-way ANOVA as the comparison of the means for two or more groups in order to decide whether the observed difference represents a chance occurrence or a systematic effect. If the variability between groups is considerably greater than the variability within groups, there is evidence of a treatment effect which will lead to a decision to reject the null hypothesis of no difference between population means. If, however, the difference between the sources of variability—within groups and between groups—falls within the range expected from sampling error, the ANOVA will lead to a decision not to reject the null hypothesis. Shavelson (1988) cites three potential sources of variability in an ANOVA:

1. Individual Differences - Each individual is different (background, abilities, motives, etc.). From others and may respond differently to the treatment.

2. Experimental Error - Measuring errors or random events that occur during the study that effect responses.

3. Treatment Effects - Different treatments have been applied to each group in hope the manipulations will produce behavioral changes.

The test is called a one-way ANOVA because it compares groups which differ on one independent variable (or factor) with two or more levels (Shavelson, 1988). An alpha level of .05 was used to determine statistical significance for the ANOVA analysis.

The Tukey (HSD) Test was performed on significant ANOVA analysis on the pre-/post-program data of alternative schools with vocational components and alternative schools without vocational components to identify the source of the statistically significant interactions. The Tukey (HSD) controls the Type I experimental error rate. According to Shavelson (1988), the value of HSD is based on a sampling distribution called the studentized range statistic. The sampling distribution of the value of studentized range statistic builds on the fact that for random samples from the same populations, the range of sample differences tends to increase as the sample size increases. The differences between all pairs of means are compared with the value of HSD. If the difference between a pair of means is greater than or equal to HSD, the two means are (honestly) significantly different at the specified level. The Alpha level of .05 was selected to determine statistical significance for the Tukey (HSD) analysis.

For part two of the study, the data collected from the retrieved student placement questionnaires were entered onto a tracking form for coding to maintain confidentially of the schools and subjects. The coded data were then entered into a computer database for sorting and analysis. The statistical program Statistical Analysis System (SAS) was used to provide descriptive statistics and to perform a statistical Chi-square test.

According to Shavelson (1988), Chi-square tests are used with frequency data which have been collected in either one-way or factorial designs. The Chi-square test for

one-way designs is called a *goodness-of-fit test* because it tests how closely observed frequencies differ significantly from the theoretically expected frequencies based on a null hypothesis, or whether the differences may be due to chance. The Chi-square test for factorial designs tests the null hypothesis that two variables are independent of one anther in the population. Chi-square tests are very useful in tables involving Yes-No answers (Shavelson, 1988). Shavelson (1988) identified three design requirements when using a Chi-square test. They are:

1. There must be one independent variable with two or more levels.
2. A subject may be counted in one and only one cell of the design.
3. The dependent variable is a count in the form of frequencies, proportions, probabilities, or percentages.

CHAPTER IV

PRESENTATION OF FINDINGS

Introduction

This chapter represents the analysis of the data from the study of a comparison of the effects of vocational components on alternative education students in the State of Oklahoma. This study consisted of two parts.

In part one of the study, fourteen public high school alternative education programs in Oklahoma were selected, seven with vocational components and seven without vocational components. Each of the fourteen schools collected data using a pre-/post-program procedure on five variables highly related to dropping out of school. Gain scores were analyzed to determine the effects the independent variable (vocational components) had on the five dependent variables (prior year grade point average; number of courses passed in prior year; number of overall absences in prior year; instructional days missed due to disciplinary suspension in prior years; and, standardized academic tests scores).

Part two of the study was a comparison of placements from the fourteen selected alternative education programs. All subjects who graduated from each of the schools were mailed a questionnaire approximately three months after exiting their alternative education program requesting placement data. Placements were analyzed to determine

the effects the independent variable (vocational components) had on the dependent variable (placement).

A description of the sample, the statistical analyses, and findings are presented in this chapter.

Description of the Sample

A purposive sampling of 344 secondary students enrolled in seven alternative schools with vocational components and 327 secondary students enrolled in seven alternative schools without vocational components comprised the 671 subjects for the study. As shown by Table III, alternative schools with vocational components were lettered A through G and alternative schools without vocational components were lettered H through N. Alternative schools with vocational components A through G provided 344 subjects from four grade levels (9-12) which represented 51 percent of the total sample and alternative schools without vocational components H through N provided 327 subjects from four grade levels (9-12) which represented 49 percent of the total sample.

Table IV depicts the distribution of demographic information of the students enrolled in alternative schools with vocational components. This group included 52 ninth graders (15.1%), 66 tenth graders (19.2%), 89 eleventh graders (25.9%), and 137 twelfth graders (39.8%) which represents the largest population. Three school size classifications were represented in the vocational alternative education group. Rural schools had 52 subjects (15.1%), urban schools had 82 subjects (23.8%), and metropolitan schools had the largest population with 210 subjects (61.1%).

TABLE III

DISTRIBUTION OF INFORMATION OF STUDENTS IN ALTERNATIVE SCHOOLS WITH VOCATIONAL COMPONENTS AND STUDENTS IN ALTERNATIVE SCHOOLS WITHOUT VOCATIONAL COMPONENTS BY SCHOOL AND BY GRADE
N=671

School	Grade 9	Grade 10	Grade 11	Grade 12	Total
Alternative Schools With Vocational Components					
A	9	16	24	30	79
B	6	13	21	29	69
C	12	17	9	24	62
D	8	6	11	18	43
E	6	7	10	16	39
F	6	1	6	11	24
G	5	6	8	9	28
			Total		344
Alternative Schools Without Vocational Components					
H	9	12	17	28	66
I	8	11	11	29	59
J	6	8	14	32	60
K	7	14	5	21	47
L	5	9	13	12	39
M	6	10	7	6	29
N	5	7	4	11	27
			Total		327

Table V reports the observations of demographic information of the students enrolled in alternative schools without vocational components into their programs. Grade groups included 46 ninth graders (14.1%), 71 tenth graders (21.7%), 71 eleventh graders (21.7%), and 139 twelfth graders (42.5%) which represents the largest population. Three school size classifications were represented in the alternative school group with vocational components. Rural schools had 56 subjects (17.1%), urban schools had 86 subjects (26.3%), and the largest population was contained in the metropolitan school classification with 185 subjects (56.6%).

TABLE IV

DISTRIBUTION OF DEMOGRAPHIC INFORMATION
OF ALTERNATIVE SCHOOLS WITH
VOCATIONAL COMPONENTS
N=344

Variable	Frequency	Percentage
Grade Classification		
9	52	15.1
10	66	19.2
11	89	25.9
12	137	39.8
Total	344	100.00
School Size Classification		
Rural	52	15.1
Urban	82	23.8
Metropolitan	210	61.1
Total	344	100.00

TABLE V

DISTRIBUTION OF DEMOGRAPHIC INFORMATION
OF ALTERNATIVE SCHOOLS WITHOUT
VOCATIONAL COMPONENTS
N=327

Variable	Frequency	Percentage
Grade Classification		
9	46	14.1
10	71	21.7
11	71	21.7
12	139	42.5
Total	327	100.00
School Size Classification		
Rural	56	17.1
Urban	86	26.3
Metropolitan	185	56.6
Total	327	100.00

Table VI shows the combined demographic information for both alternative schools with vocational components and alternative schools without vocational components. Grade groups included 98 ninth graders (14.6%), 137 tenth graders (20.4%), 160 eleventh graders (23.9%), and 276 twelfth graders (41.1%) which represents the largest population. Three school size classifications were represented in the alternative school groups with and without vocational components. Rural schools had 108 subjects (29.1%), urban schools had 168 subjects (25.0%), and the largest population was contained in the metropolitan school classification with 395 subjects (58.9%).

TABLE VI

DISTRIBUTION OF DEMOGRAPHIC INFORMATION FOR BOTH ALTERNATIVE SCHOOLS WITH VOCATIONAL COMPONENTS AND ALTERNATIVE SCHOOLS WITHOUT VOCATIONAL COMPONENTS
N=671

Variable	Frequency	Percentage
Grade Classification		
9	98	14.6
10	137	20.4
11	160	23.9
12	276	23.9
Total	671	100.00
School Size Classification		
Rural	108	29.1
Urban	168	25.0
Metropolitan	395	58.9
Total	671	100.00

Statistical Analysis

Table VII shows the mean differences in pre-/post-program student absences by grade, by alternative schools with or without vocational components, and by size of

school. The mean difference represents the decrease in student absences from pre-program to post-program. All alternative schools both with and without vocational components showed a decrease in pre-/post-program absences by students. The ninth grade rural alternative group with vocational components had the greatest decrease with a mean difference of 24.45 from pre-program to post-program. The ninth grade rural alternative group without vocational components had the least decrease with a mean difference of 1.09 fewer absences from pre-program to post-program. The range of decreases for alternative schools with vocational components was 14.81 for the eleventh grade urban group to 24.45 for the ninth grade rural group. The range of decreases for alternative schools without vocational components was 1.09 for the ninth grade rural group to 10.39 for the tenth grade urban group.

Table VIII contains the ANOVA summary comparing mean differences in pre-/post -program student absences by grade, by alternative schools with and without vocational components, and by size of school. The calculated F-values revealed a statistically significant difference (.000) between pre-/post-program absences of alternative schools with vocational components and alternative schools without vocational components. The calculated F-values showed no statistical difference existed between grade categories or size of school categories.

Table IX shows the mean differences in pre-/post-program decreases in student absences by alternative schools with and without vocational components. The 13.27 difference between the two means (19.41 minus 6.14) is statistically significant (as shown in Table VIII) as well as practically different. Students in alternative schools with

vocational components were absent 13.27 fewer days than students in alternative schools without vocational components.

TABLE VII

MEAN DIFFERENCES IN PRE-/POST-PROGRAM STUDENT ABSENCES BY GRADE, BY ALTERNATIVE SCHOOLS WITH AND WITHOUT VOCATIONAL COMPONENTS, AND BY SIZE OF SCHOOL

Grade	Type of Alternative School	Size of School	Mean Difference	Standard Deviation	N
9	With Vocational Components	Rural	24.45	13.30	11
		Urban	19.71	15.85	14
		Metropolitan	19.52	15.35	27
	Without Vocational Components	Rural	1.09	15.10	11
		Urban	7.83	6.14	12
		Metropolitan	5.34	13.87	23
10	With Vocational Components	Rural	21.57	10.87	7
		Urban	19.07	16.75	13
		Metropolitan	22.48	15.14	46
	Without Vocational Components	Rural	8.65	10.60	17
		Urban	10.39	10.63	23
		Metropolitan	6.42	13.78	31
11	With Vocational Components	Rural	19.92	15.30	14
		Urban	14.81	12.82	21
		Metropolitan	18.61	11.17	54
	Without Vocational Components	Rural	7.82	6.32	11
		Urban	5.72	12.07	18
		Metropolitan	2.90	13.96	42
12	With Vocational Components	Rural	16.45	11.56	20
		Urban	16.79	15.32	34
		Metropolitan	19.53	14.37	83
	Without Vocational Components	Rural	2.76	9.16	17
		Urban	7.24	11.15	33
		Metropolitan	7.52	11.17	89

TABLE VIII

ANALYSIS OF VARIANCE SUMMARY TABLE COMPARING MEAN DIFFERENCES IN PRE-/POST-PROGRAM STUDENT ABSENCES BY GRADE, BY ALTERNATIVE SCHOOLS WITH AND WITHOUT VOCATIONAL COMPONENTS, AND BY SIZE OF SCHOOL

Source of Variation	Sum of Squares	df	Mean Squared	F
Grade	714.71	3	238.24	1.40
Vocational/Non-Vocational	19,613.36	1	19,613.36	115.59 *
Size	1.37	2	.68	.01
Grade☆Vocational/Non-Vocational	350.57	3	116.86	.69
Grade☆Size	719.25	6	119.88	.71
Vocational/Non-Vocational☆Size	677.08	2	338.54	2.00
Grade☆Vocational/Non-Vocational☆Size	510.82	6	85.14	.50
Error	109,787.54	647	169.69	
Total				

Grade	F Critical (.05) = 3.03
Vocational/Non-Vocational	F Critical (.05) = 4.28
Size	F Critical (.05) = 3.42
Grade☆Vocational/Non-Vocational	F Critical (.05) = 3.03
Grade☆Size	F Critical (.05) = 2.53
Vocational/Non-Vocational☆Size	F Critical (.05) = 3.42
Grade☆Vocational/Non-Vocational☆Size	F Critical (.05) = 2.53

* $p < .05$

TABLE IX

MEAN DIFFERENCES IN PRE-/POST-PROGRAM DECREASES IN STUDENT ABSENCES BY ALTERNATIVE SCHOOLS WITH AND WITHOUT VOCATIONAL COMPONENTS

Type of Alternative School	Mean	Std Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
With Vocational Components	19.41	.89	17.67	21.16
Without Vocational Components	6.14	.86	4.46	7.82

Table X shows the mean differences in pre-/post-program student grade point averages (GPA) by grade, by alternative schools with and without vocational components, and by size of school. All alternative schools both with and without vocational components showed gains in pre-/post-program student GPA's. The ninth grade metropolitan alternative schools group without vocational components had the highest gain with a mean difference of 1.65 from pre-program to post-program. The tenth grade rural alternative group without vocational components had the lowest gain with a mean difference of .36 from pre-program to post-program. The range of gains for alternative schools with vocational components was .55 for the eleventh grade rural group to 1.61 for the eleventh grade urban group. The range of gains for alternative schools without vocational components schools was .36 for the tenth grade rural group to 1.65 for the ninth grade metropolitan group.

Table XI contains the ANOVA summary comparing mean differences in pre-/post-program student grade point averages by grade, by alternative schools with and without vocational components schools, and by size of school. The calculated F-value revealed a statistically significant difference (.000) between pre-/post-program student GPA's of the three different size alternative schools. The calculated F-values showed no statistical difference existed between grade categories or alternative schools with and without vocational components.

Table XII shows the mean differences in pre-/post-program increases in student grade point averages by the three alternative school sizes. The mean differences between the rural alternative schools versus the metropolitan and urban alternative schools in terms of grade point averages is statistically significant (as shown in Table XI). Table

XII shows a .90 difference between metropolitan versus rural grade point average (1.30 minus .40) and a .68 difference in urban versus rural grade point average (1.08 minus .40).

TABLE X

MEAN DIFFERENCES IN PRE-/POST-PROGRAM STUDENT GRADE POINT AVERAGES BY GRADE, BY ALTERNATIVE SCHOOLS WITH AND WITHOUT VOCATIONAL COMPONENTS, AND BY SIZE OF SCHOOL

Grade	Type of Alternative School	Size of School	Mean Difference	Standard Deviation	N
9	With Vocational Components	Rural	1.47	1.45	11
		Urban	1.40	1.43	14
		Metropolitan	1.22	1.12	27
	Without Vocational Components	Rural	.65	1.88	11
		Urban	1.14	.94	12
		Metropolitan	1.65	1.48	23
10	With Vocational Components	Rural	.89	1.09	7
		Urban	1.04	2.06	13
		Metropolitan	1.38	1.27	46
	Without Vocational Components	Rural	.36	1.43	17
		Urban	.55	1.83	23
		Metropolitan	.67	1.72	31
11	With Vocational Components	Rural	.55	1.20	14
		Urban	1.61	1.50	21
		Metropolitan	1.48	1.06	54
	Without Vocational Components	Rural	.71	1.21	11
		Urban	1.17	1.63	18
		Metropolitan	1.06	1.64	42
12	With Vocational Components	Rural	.68	1.07	20
		Urban	1.42	1.63	34
		Metropolitan	1.49	1.30	83
	Without Vocational Components	Rural	.61	1.34	17
		Urban	.68	.65	33
		Metropolitan	1.43	1.34	89

TABLE XI

ANALYSIS OF VARIANCE SUMMARY TABLE COMPARING MEAN DIFFERENCES IN PRE-/POST-PROGRAM STUDENT GRADE POINT AVERAGES BY GRADE, BY ALTERNATIVE SCHOOLS WITH AND WITHOUT VOCATIONAL COMPONENTS, AND BY SIZE OF SCHOOL

Source of Variation	Sum of Squares	df	Mean Squared	F
Grade	15.25	3	5.08	2.52
Vocational/Non-Vocational	1.36	1	1.36	.67
Size	59.70	2	29.85	14.82*
Grade☆Vocational/Non-Vocational	4.10	3	1.37	.68
Grade☆Size	12.72	6	2.12	1.05
Vocational/Non-Vocational☆Size	10.74	2	5.37	2.67
Grade☆Vocational/Non-Vocational☆Size	9.10	6	1.52	.75
Error	1,302.96	647	2.01	
Total	2,276.60	671		

Grade	F Critical (.05) = 3.03
Vocational/Non-Vocational	F Critical (.05) = 4.28
Size	F Critical (.05) = 3.42
Grade☆Vocational/Non-Vocational	F Critical (.05) = 3.03
Grade☆Size	F Critical (.05) = 2.53
Vocational/Non-Vocational☆Size	F Critical (.05) = 3.42
Grade☆Vocational/Non-Vocational☆Size	F Critical (.05) = 2.53

* $p < .05$

TABLE XII

MEAN DIFFERENCES IN PRE-/POST-PROGRAM INCREASES IN STUDENT GRADE POINT AVERAGES BY SIZE OF ALTERNATIVE SCHOOL

Size of School	Mean	Std Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Rural	.40	.14	.12	.69
Urban	1.08	.12	.85	1.34
Metropolitan	1.30	.08	1.14	1.45

Table XIII is a comparison of the three school size categories on pre-/post-program mean differences for student grade point averages (GPA's) using Tukey's Studentized Range (HSD) Test. An alpha level of .05 was used to determine statistical significance. The following pairwise combinations of school sizes were compared for statistical significance: rural to urban; rural to metropolitan; and urban to metropolitan. The comparisons of the rural to urban and rural to metropolitan were found to have significant differences among student GPA's. Table XII illustrates that rural is lower in both cases.

TABLE XIII

COMPARISON OF THREE ALTERNATIVE SCHOOL SIZES ON PRE-/POST-PROGRAM MEAN DIFFERENCES FOR STUDENT GRADE POINT AVERAGES USING TUKEY'S (HSD) TEST

Alternative School Size Comparison		Mean Difference	Significance
Rural	Urban	- .56	*
	Metropolitan	- .87	*
Urban	Rural	.56	*
	Metropolitan	- .26	
Metropolitan	Rural	.87	*
	Urban	.26	

* $p < .05$

Table XIV shows the mean differences in pre-/post-program student suspensions by grade, by alternative schools with and without vocational components, and by size of school. The mean difference represents the decrease in suspensions from pre-program to post-program. All alternative schools both with and without vocational components showed decreases in pre-/post-program student suspensions with the exception of the

tenth grade rural schools group without vocational components (-.53) and the eleventh grade rural (-.54) and urban schools group without vocational components (-.22). The twelfth grade urban group with vocational components had the greatest decrease with a mean difference of 8.06 fewer days suspended from pre-program to post-program. The eleventh grade rural alternative schools group without vocational components had the least decrease with a mean difference of - .54 from pre-program to post-program. The range of decreases for alternative schools with vocational components was 2.52 for the tenth grade metropolitan group to 8.06 for the twelfth grade urban group. The range of decreases for alternative schools without vocational components schools was -.54 for the eleventh grade rural group to 3.52 for the ninth grade metropolitan group.

Table XV contains the ANOVA summary comparing mean differences in pre-/post-program student suspensions by grade, by alternative schools with and without vocational components, and by size of school. The calculated F-value revealed a statistically significant difference (.000) between pre-/post-program student suspensions of alternative schools with vocational components and alternative schools without vocational components schools. The calculated F-values showed no statistical difference existed between grade categories or size of school categories.

Table XVI shows the mean differences in pre-/post-program decreases in student suspensions by alternative schools with and without vocational components. The 3.49 difference between the two means (4.59 minus 1.10) is statistically significant (as shown in Table XV) as well as practically different. Students in alternative schools with vocational components were suspended 3.49 less days than students in alternative schools without vocational components.

TABLE XIV

MEAN DIFFERENCES IN PRE-/POST-PROGRAM STUDENT SUSPENSIONS BY GRADE, BY ALTERNATIVE SCHOOLS WITH AND WITHOUT VOCATIONAL COMPONENTS, AND BY SIZE OF SCHOOL

Grade	Type of Alternative School	Size of School	Mean Difference	Standard Deviation	N
9	With Vocational Components	Rural	2.82	9.35	11
		Urban	4.43	8.13	14
		Metropolitan	2.78	5.00	27
	Without Vocational Components	Rural	.11	1.57	11
		Urban	.33	6.70	12
		Metropolitan	3.52	12.37	23
10	With Vocational Components	Rural	5.42	9.29	7
		Urban	4.85	10.00	13
		Metropolitan	2.52	3.31	46
	Without Vocational Components	Rural	- .53	3.18	17
		Urban	1.83	3.37	23
		Metropolitan	1.90	8.13	31
11	With Vocational Components	Rural	6.14	11.78	14
		Urban	3.95	8.69	21
		Metropolitan	3.93	4.50	54
	Without Vocational Components	Rural	- .54	1.29	11
		Urban	- .22	3.70	18
		Metropolitan	3.33	10.36	42
12	With Vocational Components	Rural	4.90	9.03	20
		Urban	8.06	14.56	34
		Metropolitan	5.31	10.50	83
	Without Vocational Components	Rural	.76	1.89	17
		Urban	.52	2.85	33
		Metropolitan	2.22	8.70	89

TABLE XV

ANALYSIS OF VARIANCE SUMMARY TABLE COMPARING MEAN DIFFERENCES IN PRE-/POST-PROGRAM STUDENT SUSPENSIONS BY GRADE, BY ALTERNATIVE SCHOOLS WITH AND WITHOUT VOCATIONAL COMPONENTS, AND BY SIZE OF SCHOOL

Source of Variation	Sum of Squares	df	Mean Squared	F
Grade	130.45	3	43.48	.63
Vocational/Non-Vocational	1,357.83	1	1,357.83	19.75*
Size	48.82	2	24.41	.36
Grade☆Vocational/Non-Vocational	135.67	3	45.22	.66
Grade☆Size	158.66	6	26.44	.39
Vocational/Non-Vocational☆Size	423.06	2	211.53	3.02
Grade☆Vocational/Non-Vocational☆Size	135.44	6	22.57	.33
Error	44,488.07	647	68.76	
Total	59,993.00	671		

Grade	F Critical (.05) = 3.03
Vocational/Non-Vocational	F Critical (.05) = 4.28
Size	F Critical (.05) = 3.42
Grade☆Vocational/Non-Vocational	F Critical (.05) = 3.03
Grade☆Size	F Critical (.05) = 2.53
Vocational/Non-Vocational☆Size	F Critical (.05) = 3.42
Grade☆Vocational/Non-Vocational☆Size	F Critical (.05) = 2.53

* $p < .05$

TABLE XVI

MEAN DIFFERENCES IN PRE-/POST-PROGRAM DECREASES IN STUDENT SUSPENSIONS BY ALTERNATIVE SCHOOLS WITH AND WITHOUT VOCATIONAL COMPONENTS

Type of Alternative School	Mean	Std Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
With Vocational Components	4.59	.57	3.48	5.70
Without Vocational Components	1.10	.55	.03	2.17

Table XVII shows the mean differences in pre-/post-program courses completed by grade, by alternative schools with and without vocational components, and by size of school. All alternative schools both with and without vocational components showed gains in pre-/post-program courses completed. The ninth grade metropolitan group with vocational components had the highest gain with a mean difference of 2.34 from pre-program to post-program. The tenth grade rural group with vocational components had the lowest gain with a mean difference of .51 from pre-program to post-program. The range of gains for alternative schools with vocational components was .51 for the tenth grade rural group to 2.34 for the eleventh grade metropolitan group. The range of gains for alternative schools without vocational components schools was .55 for the eleventh grade rural group to 2.31 for the eleventh grade urban group.

Table XVIII contains the ANOVA summary comparing mean differences in pre-/post-program courses completed by grade, by alternative schools with and without vocational components, and by size of school. The calculated F-values showed no statistical difference existed between grade categories, alternative schools with or without vocational components, or size of school categories.

Table XIX shows the mean differences in pre-/post-test scores of the TABE by grade, by alternative schools with and without vocational components, and by size of school. All alternative schools both with and without vocational components showed gains in pre-test and post-test scores on the TABE. The eleventh grade rural alternative schools without vocational components group had the highest gain with a mean difference of 11.09 from pre-test to post-test. The eleventh grade rural alternative group with vocational components had the lowest gain with a mean difference of 2.14 from

pre-test to post-test. The range of gains for alternative schools with vocational components was 2.14 for the eleventh grade rural group to 5.91 for the eleventh grade metropolitan group. The range of gains for alternative schools without vocational components schools was 3.18 for the ninth grade rural group to 11.09 for the eleventh grade rural group.

TABLE XVII

MEAN DIFFERENCES IN PRE-/POST-PROGRAM COURSES COMPLETED BY GRADE, BY ALTERNATIVE SCHOOLS WITH AND WITHOUT VOCATIONAL COMPONENTS, AND BY SIZE OF SCHOOL

Grade	Type of Alternative School	Size of School	Mean Difference	Standard Deviation	N
9	With Vocational Components	Rural	.64	2.62	11
		Urban	2.00	2.32	14
		Metropolitan	2.34	1.99	27
	Without Vocational Components	Rural	1.73	3.93	11
		Urban	2.08	1.51	12
		Metropolitan	2.22	3.53	23
10	With Vocational Components	Rural	.51	2.31	7
		Urban	1.31	3.43	13
		Metropolitan	1.87	2.68	46
	Without Vocational Components	Rural	1.21	4.34	17
		Urban	.83	3.49	23
		Metropolitan	1.16	3.47	31
11	With Vocational Components	Rural	1.71	2.87	14
		Urban	2.19	1.91	21
		Metropolitan	1.59	2.20	54
	Without Vocational Components	Rural	.55	3.53	11
		Urban	2.31	2.91	18
		Metropolitan	.93	2.89	42
12	With Vocational Components	Rural	.90	1.71	20
		Urban	1.00	2.46	34
		Metropolitan	1.64	2.49	83
	Without Vocational Components	Rural	1.41	2.55	17
		Urban	.64	3.51	33
		Metropolitan	1.61	2.64	89

TABLE XVIII

ANALYSIS OF VARIANCE SUMMARY TABLE COMPARING MEAN DIFFERENCES IN PRE-/POST-PROGRAM COURSES COMPLETED BY GRADE, BY ALTERNATIVE SCHOOLS WITH AND WITHOUT VOCATIONAL COMPONENTS, AND BY SIZE OF SCHOOL

Source of Variation	Sum of Squares	df	Mean Squared	F
Grade	47.71	3	15.91	2.04
Vocational/Non-Vocational	1.54	1	1.54	.20
Size	44.74	2	22.37	2.87
Grade☆Vocational/Non-Vocational	15.81	3	5.27	.68
Grade☆Size	75.60	6	12.60	1.62
Vocational/Non-Vocational☆Size	3.29	2	1.65	.21
Grade☆Vocational/Non-Vocational☆Size	14.62	6	2.44	.31
Error	5,046.60	647	7.80	
Total	6,624.00	671		

Grade	F Critical (.05) = 3.03
Vocational/Non-Vocational	F Critical (.05) = 4.28
Size	F Critical (.05) = 3.42
Grade☆Vocational/Non-Vocational	F Critical (.05) = 3.03
Grade☆Size	F Critical (.05) = 2.53
Vocational/Non-Vocational☆Size	F Critical (.05) = 3.42
Grade☆Vocational/Non-Vocational☆Size	F Critical (.05) = 2.53

Table XX contains the ANOVA summary comparing mean differences in pre-/post-test scores of the TABE by grade, by alternative schools with and without vocational components, and by size of school. The calculated F-value revealed a statistically significant difference (.001) between pre-/post-test scores on the TABE for alternative schools with vocational components and alternative schools without vocational component. The calculated F-values showed no statistical difference existed between grade categories or size of school categories.

Table XXI shows the mean differences in pre-/post-test score increases on the TABE for alternative schools with and without vocational components. The 2.63

difference between the two means (6.99 minus 4.06) is statistically significant (as shown in Table XX) as well as practically different. Students in alternative schools without vocational components gained 2.63 more points on the TABE than students in alternative schools with vocational components.

TABLE XIX

MEAN DIFFERENCES IN PRE-/POST-TEST SCORES ON THE TABE BY GRADE, BY ALTERNATIVE SCHOOLS WITH AND WITHOUT VOCATIONAL COMPONENTS, AND BY SIZE OF SCHOOL

Grade	Type of Alternative School	Size of School	Mean Difference	Standard Deviation	N
9	With Vocational Components	Rural	4.63	5.52	11
		Urban	3.86	5.79	14
		Metropolitan	5.63	13.83	27
	Without Vocational Components	Rural	3.18	9.73	11
		Urban	6.67	6.81	12
		Metropolitan	4.87	7.69	23
10	With Vocational Components	Rural	3.29	4.61	7
		Urban	2.92	1.98	13
		Metropolitan	3.97	7.70	46
	Without Vocational Components	Rural	6.24	9.90	17
		Urban	7.83	6.57	23
		Metropolitan	6.90	8.39	31
11	With Vocational Components	Rural	2.14	4.49	14
		Urban	5.19	3.60	21
		Metropolitan	5.91	7.41	54
	Without Vocational Components	Rural	11.09	12.86	11
		Urban	8.50	10.91	18
		Metropolitan	6.98	11.36	42
12	With Vocational Components	Rural	3.95	3.41	20
		Urban	3.18	8.83	34
		Metropolitan	4.10	8.72	83
	Without Vocational Components	Rural	7.41	10.45	17
		Urban	5.12	8.04	33
		Metropolitan	5.51	8.27	89

TABLE XX

ANALYSIS OF VARIANCE SUMMARY TABLE COMPARING MEAN DIFFERENCES IN PRE-/POST-TEST SCORES ON THE TABE BY GRADE, BY ALTERNATIVE SCHOOLS WITH AND WITHOUT VOCATIONAL COMPONENTS, AND BY SIZE OF SCHOOL

Source of Variation	Sum of Squares	df	Mean Squared	F
Grade	262.85	3	87.62	1.26
Vocational/Non-Vocational	768.21	1	768.21	11.01*
Size	4.40	2	2.20	.03
Grade☆Vocational/Non-Vocational	251.41	3	83.80	1.20
Grade☆Size	95.78	6	15.96	.23
Vocational/Non-Vocational☆Size	164.43	2	82.22	1.18
Grade☆Vocational/Non-Vocational☆Size	265.57	6	44.26	.63
Total				

Grade	F Critical (.05) = 3.03
Vocational/Non-Vocational	F Critical (.05) = 4.28
Size	F Critical (.05) = 3.42
Grade☆Vocational/Non-Vocational	F Critical (.05) = 3.03
Grade☆Size	F Critical (.05) = 2.53
Vocational/Non-Vocational☆Size	F Critical (.05) = 3.42
Grade☆Vocational/Non-Vocational☆Size	F Critical (.05) = 2.53

* $p < .05$

TABLE XXI

MEAN DIFFERENCES IN PRE-/POST-TEST SCORE INCREASES IN THE TABE BY ALTERNATIVE SCHOOLS WITH AND WITHOUT VOCATIONAL COMPONENTS

Type of Alternative School	Mean	Std Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
With Vocational Components	4.06	.57	2.95	5.18
Without Vocational Components	6.69	.55	5.61	7.77

Table XXII depicts the distribution of placement and non-placement data of students from alternative schools with and without vocational components. The student group from alternative schools with vocational components had 80 students representing 52.6 percent of the total sample, of which 76 students (95%) had placements and 4 students (5%) were classified as non-placements. The student group from alternative schools without vocational components had 72 students representing 47.3 percent of the total sample, of which 61 students (84.7%) had placements and 11 students (15.3%) were classified as non-placements.

TABLE XXII

DISTRIBUTION OF PLACEMENT AND NON-PLACEMENT DATA OF STUDENTS FROM ALTERNATIVE SCHOOLS WITH AND WITHOUT VOCATIONAL COMPONENTS
N=152

Type of Alternative School	Placements	Non-Placements	Total
With Vocational Components	76	4	80
Without Vocational Components	61	11	72
Total			152

Table XXIII contains the Chi-square summary comparing placements and non-placements of students from alternative schools with and without vocational components. The calculated χ_{obs} revealed a statistically significant difference (.036) between placements and non-placements of students from alternative schools with vocational components and students from alternative schools without vocational components.

TABLE XXIII

CHI-SQUARE SUMMARY COMPARING PLACEMENTS AND NON-PLACEMENTS OF STUDENTS FROM ALTERNATIVE SCHOOLS WITH AND WITHOUT VOCATIONAL COMPONENTS

Type of Student	O	E	$(O - E)^2$
Vocational Alternative Student Placements	76	72.11	.21
Vocational Alternative Student Non-Placements	4	7.89	1.92
Non-Vocational Alternative Student Placements	61	64.89	.23
Non-Vocational Alternative Student Non-Placements	11	7.11	2.13
Total	152	152	$4.49=\chi$ obs*

$.05\ \chi^2\ (1) = 3.84$
* $p < .05$

Examination of the Null Hypotheses

The data presented in part one of this study revealed statistically significant differences between selected variables of pre-/post-program mean differences of the treatment group (vocational components) as compared to the control group (no vocational components) in three of the five selected variables used in this study. As shown in Table IV students in alternative schools with vocational components had a greater pre-/post-program mean difference decrease in student absences than the students in alternative schools without vocational components. The mean difference in the pre-/post-program decrease in absences was found to be statistically significant (.000). There was no statistical difference between grade categories or size of school categories for student absences. As shown in Table XVI students in alternative schools with vocational components had a greater pre-/post-program mean difference decrease in student suspensions than the students in alternative schools without vocational components. The

mean difference in the pre-/post-program decrease in student suspensions was found to be statistically significant (.000). There was no statistical difference between grade categories or size of school categories for student suspensions. As shown in Table XVI students in alternative schools without vocational components had larger mean difference gains between pre-tests and post-test scores on the TABE than students in alternative schools with vocational components. The mean difference in the pre-/post-test score gains was found to be statistically significant (.001). There was no statistical difference between grade categories or size of school categories for the TABE. The mean difference in pre-/post-program gains in Student GPA and Courses Completed between alternative schools with and without vocational components showed no statistical difference.

The null hypothesis tested was H_0: There are no differences, in terms of selected variables, among students in alternative education programs in Oklahoma with vocational education components, as compared to students in alternative education programs in Oklahoma without vocational education components. Based on the analysis of the data from this study, the researcher failed to reject the null hypothesis in relation to the effect of vocational components on selected variables of alternative students in the State of Oklahoma.

The data presented in part two of this study revealed statistically significant difference between the placements of the treatment group (vocational components) as compared to the control group (no vocational components). As shown in Table XXIII students in alternative schools with vocational components had more placements than students in alternative schools without vocational components schools. The difference in placements was found to be statistically significant (.001).

The null hypothesis tested was H_0: The are no differences, in terms of placements, among students in alternative education programs in Oklahoma with vocational education components, as compared with students in alternative education programs in Oklahoma without vocational education components. Based on the analysis of the data from this study, the researcher rejected the null hypothesis in relation to the effect of vocational components on placements of alternative students in the State of Oklahoma.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study was conducted to determine if the integration of vocational educational components into alternative education programs had an impact on student achievement as measured by selected variables. A review of literature revealed a lack of well designed scientific research regarding the effectiveness of vocational components in alternative education programs. Although, through the review of literature it was discovered that studies had been done pertaining to alternative education in general, none could be found that compared the use of vocational components in alternative education programs to alternative education programs which do not utilize vocational components. As a result, comparatively speaking, very little could be said about the effectiveness of vocational components on alternative education students. This study provides an approach that seeks to compare alternative schools using vocational components with alternative school not using vocational components in terms of selected variables highly related to dropping out of school and placements.

The following research questions were developed to provide direction to the study:

1. Are there significant differences, in terms of selected variables, among students in alternative education programs in Oklahoma with vocational education components, as compared to students in alternative education programs in Oklahoma without vocational education components?

2. Are there significant differences, in terms of placements, among students in alternative education programs in Oklahoma with vocational education components, as compared with students in alternative education programs in Oklahoma without vocational education components?

This study consisted of two parts. The purposive sample for part one of the study, consisted of 344 secondary students enrolled in seven public high school alternative education programs in Oklahoma with vocational components and 327 secondary students enrolled in seven alternative education programs in Oklahoma without vocational components. An equal number of rural, urban, and large metropolitan alternative schools were selected for each of the two groups.

Each of the fourteen alternative programs collected data using a pre-/post-program procedure on five variables highly related to dropping out of school. The pre-program data were collected from the most recent semester completed by the student prior to entry into their respective alternative education programs. The five variables were: (1) prior year grade point average; (2) number of courses passed in prior year; (3) number of overall absences in prior year; (4) instructional days missed due to disciplinary suspension in prior years; and (5) standardized academic test scores.

The same data were collected at the end of the school year, including an additional standardized test. The TABE was used as the standardized academic test

instrument. The TABE was used as a pre-test taken as students enter their respective alternative education programs and the post-test at the end of the school year. Gain scores were analyzed to determine the effects the independent variable (vocational components) had on the five dependent variables (prior year grade point average; number of courses passed in prior year; number of overall absences in prior year; instructional days missed due to disciplinary suspension in prior years; and, standardized academic test scores).

Part two of the study was a comparison of placements from the fourteen selected high school alternative programs, seven with vocational educational components and seven without vocational educational components. Successful placement was defined as job attainment, entry into post-secondary education, or entry into the military.

Approximately three months after exiting their alternative education program, a questionnaire was mailed to 114 senior program completers from alternative programs with vocational components and 111 senior program completers from alternative programs without vocational components. A non-respondent follow-up letter was mailed in mid September of 1998. The number of returned questionnaires totaled 152. This represents a 67.5 percent return of the total sample. Placements were analyzed to determine the effects the independent variable (vocational components) had on the dependent variable (placements).

Results of the Study

The results of the study were summarized in the following findings:

1. Students in alternative schools with vocational components had fewer absences than students in alternative schools without vocational components.
2. School size or grade level of students in alternative schools do not make any difference in terms of absences.
3. Students in alternative schools with vocational components had fewer suspensions than students in alternative schools without vocational components.
4. School size or grade level of students in alternative schools do not make any difference in terms of suspensions.
5. Students in alternative schools without vocational components had larger gains between pre-test and post-test scores on standardized academic tests than students in alternative schools with vocational components.
6. School size or grade level of students in alternative schools do not make any difference in terms of standardized academic test scores.
7. There is no difference in terms of number of courses completed between students in alternative schools with or without vocational components.
8. School size or grade level of students in alternative schools do not make any difference in terms of number of courses completed.
9. There is no difference in terms of grade point averages between students in alternative schools with or without vocational components.

10. Grade level of students in alternative schools do not make any difference in terms of grade point averages.

11. Students in metropolitan and urban alternative schools had larger gains in grade point averages than students in rural alternative schools.

12. Students in alternative schools with vocational components had more placements than students in alternative schools without vocational components.

Conclusions

Although this study identified statistical differences in the two groups in some selected variables, they also identified some questions which must be considered in drawing sound conclusions about the effect of vocational components on alternative education students. The following conclusions should be interpreted with caution until additional research is conducted that will provide investigation of areas targeted by the questions.

Based on the study's findings, the following general conclusions were derived:

1. Based on the findings that the integration of vocational components into alternative education programs had some degree of positive impact on student achievement as measured by all five of the selected variables, it can be concluded that vocational components should be incorporated into alternative education programs because of the positive impact on significant workplace related variables.

2. Based on the findings that although students in alternative schools with or without vocational components posted standardized achievement test score gains,

the students in alternative schools without vocational components posted larger gains; therefore it can be concluded that although the vocational component has some positive aspects, the vocational component does not fully focus on the academic needs of the students.

3. Based on the findings that students in alternative schools with vocational components have more placements than students in alternative schools without vocational components, it can be concluded that the integration of vocational components into alternative schools will enhance students' readiness to enter the workforce or post-secondary education.

Based on the study's findings, the following specific conclusions were derived:

1. Based on the finding that students in alternative education programs with vocational components have fewer absences and suspensions than secondary students in alternative education programs without vocational components, it can be concluded that vocational components should be incorporated into alternative education programs to decrease student absences and student suspensions.

2. Although the findings indicated that both the experimental and control group posted pre-test and post-test gains in standardized academic test scores, the students in alternative programs without vocational components achieved larger gains than students in alternative programs with vocational components; therefore, the results are inconclusive that vocational components should be incorporated into alternative education programs.

3. Based on the findings, that no difference exists between grade levels in alternative schools with or without vocational components, and the selected

variables of: decreased absences and suspensions; increased grade point averages; increased courses completed; and increased standardized academic test scores, it can be concluded that grade level does not make a difference in student achievement. Therefore factors other than grade level may influence absences, suspensions, grade point averages, courses completed and standardized test scores.

4. Based on the findings, that no difference exists between school size in alternative schools with or without vocational components, and the selected variables of: decreased absences and suspensions; increased courses completed; and increased standardized academic test scores, it can be concluded that school size does not make a difference in student achievement other than grade point averages. Therefore, factors other than school size may influence absences, suspensions, courses completed and standardized test scores.

5. Based on the findings that secondary students in alternative education programs with vocational components have more placements than secondary students in alternative education programs without vocational components, it can be concluded that vocational components should be incorporated into alternative schools to enhance students' opportunity for placement.

Recommendations

The State of Oklahoma has approximately 5,500 secondary students enrolled in alternative education programs and this number will continue to grow. As per legislation, all school districts in Oklahoma must develop and implement alternative education

programs by the 2000-2001 school year. Since the curriculum regulations and delivery guidelines for alternative education in Oklahoma are very autonomous at this stage of development, creativity and reform are being encouraged as alternative education programs are emerging. Therefore, it is imperative that monies be wisely invested in programs that have the opportunity to be successful with students. As regulatory agencies refine alternative education criteria and design future programs, they will be assessing and evaluating components that have a positive impact on students. While it is important to consider the effectiveness of alternative education program design and implementation, policy makers should keep in mind that alternative learning environments only represent one piece of the entire educational system. If policy makers want to ensure an effective educational system for all students, they need to explore not only how alternative schools lead to success for some students, but how alternative education fits into the education system as a whole. This study holds some implications for assisting agencies and local school districts in their attempt to establish curriculum components and instructional delivery systems for alternative education programs in the State of Oklahoma.

First, it is recommended that alternative education program developers include strategies to integrate vocational components into curriculum and instructional delivery systems. The data in this study support the use of vocational components in alternative education programs for positively effecting the selected variables of decreased student absences and suspensions, increased grade point averages, increased courses completed, increased standardized test scores, and increased placement opportunities; therefore,

alternative education programs should consider the integration of vocational components into programs.

Second, it is recommended that secondary schools in general develop strategies to implement alternative education practices and methodology into traditional instructional delivery systems. The data in this study support the use of alternative education in general for positively effecting the selected variables of decreased student absences and suspensions, and increased student grade point averages, increased courses completed, and increased standardized test scores. Since other research has shown a positive relationship between alternative education and student achievement, secondary schools in general should consider strategies to implement alternative education principles into regular classroom instructional delivery systems.

Third, it is recommended that alternative education programs with vocational components include alternative assessment methods to evaluate student academic achievement. The data in this study supports the use of alternative education programs without vocational components for larger gains on standardized academic test scores; therefore, alternative schools using vocational components should develop alternative assessment methods to assess student academic and vocational competencies in a contextual setting or re-examine how the academic skills are addressed in the vocational component.

Recommendations for Further Research

The findings of this study revealed topic areas where additional research could assist in providing information to be used in the efforts as educators and policy makers

design effective alternative forms of education. The findings of this study would be greatly enhanced if further research was conducted in the following areas:

1. The findings of this study indicated that secondary students enrolled in alternative schools with vocational components had statistically significant greater pre-/post-program mean difference decreases in student absences and suspensions than the students in alternative schools not using vocational components. Further research is needed to determine which other factors may have influenced decreases in student absences and suspensions of the students in alternative programs using vocational components. Factors that could be studied include the different types of vocational components used in alternative schools, exposure to counseling programs, use of mentors, web of support from adults, and parental involvement.

2. The findings of this study indicated that secondary students in alternative schools without vocational components had significantly larger mean difference gains between pre-/post-test scores on standardized academic achievement tests than students in alternative schools with vocational components. Further research is needed to determine which other factors may have influenced larger mean difference gains between pre-/post-test scores on standardized academic achievement tests of students in alternative schools without vocational components. Factors that could be studied include the type of standardized academic test being administered, utilization of tutors, computer assisted instruction, type of academic curriculum, type of teaching methodology, and student expectations of both academic and vocational teachers.

3. The findings of this study indicated that secondary students in metropolitan and urban alternative schools with or without vocational components had statistically significant larger mean difference gains between pre-/post-program student grade point averages than students in rural alternative schools with or without vocational components. Further research is needed to determine which other factors may have influenced larger mean difference gains between pre-/post-program student grade point averages of students in metropolitan and urban alternative schools with or without vocational components. Factors that could be studied include expectations of student achievement, access to a greater variety of courses, access to additional community resources, and student expectations of teachers in urban versus rural schools.

4. The findings of this study indicated that secondary students in alternative schools with vocational components had statistically significant greater placements than students in alternative schools without vocational components. Further research is needed to determine which other factors may have influenced greater placements of students in alternative schools with vocational components. Factors that could be studied include the different types of vocational components used in alternative education programs, exposure to career guidance, types of placement, and access to transition services.

5. Further research is recommended that would determine which types of alternative education programs produce the fewest dropouts. Although the study did not look at retention rates of alternative schools, if additional research concludes that alternative schools with vocational components are more

successful in retaining students as compared to alternative schools without vocational components, the structure of alternative education in general would be greatly impacted.

The researcher holds the opinion that findings from the above recommendations would provide information that would assist educators in their efforts to design and structure effective alternative education programs in Oklahoma. Effective alternative education programs could be used as models to initiate broader educational reform. It is hoped that the results of this study will promote further research in the recommended areas in an effort to address the most effective initiatives to keep at-risk students in school and adequately prepare them for the complex and highly technical workplace of the twenty-first century.

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APPENDIXES

APPENDIX A

OKLAHOMA STATE UNIVERSITY INSTITUTIONAL REVIEW BOARD APPROVAL OF HUMAN SUBJECTS STUDY

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: March 10, 1998 **IRB #: ED-98-089**

Proposal Title: A COMPARISON OF THE EFFECTS OF VOCATIONAL EDUCATION COMPONENTS AND NON-VOCATIONAL COMPONENTS ON ALTERNATIVE EDUCATION STUDENTS IN THE STATE OF OKLAHOMA

Principal Investigator(s): Garry Bice, Jim B. McCharen

Reviewed and Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

ALL APPROVALS MAY BE SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING, AS WELL AS ARE SUBJECT TO MONITORING AT ANY TIME DURING THE APPROVAL PERIOD.
APPROVAL STATUS PERIOD VALID FOR DATA COLLECTION FOR A ONE CALENDAR YEAR PERIOD AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.
ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Disapproval are as follows:

Signature

Chair of Institutional Review Board

Date: March 12, 1998

cc: Jim B. McCharen

APPENDIX B

INITIAL LETTER TO ALTERNATIVE SCHOOL DIRECTORS REQUESTING RELEASE OF STUDENT DATA

April 10, 1998

Jim McCharen
12425 Croydon Rd.
Midwest City OK 73130

(Director's Name)
(Name of Alternative School)
(Address of Alternative School)

Dear (Name of Director):

As per our phone conversation, I am conducting a doctoral research project with support from the Oklahoma Technical Assistance Center (OTAC) dealing with alternative education programs in Oklahoma. I am requesting that you fax Kelly Langley (OTAC) at (918) 225-4711 with the following statement on your school letterhead with your signature:

"Please release our student data to Jim McCharen with the condition that student or school names will not be used".

This document must be on file at the OTAC office to allow that agency to release student data to me at the end of the school year.

If you have questions please contact me, Kelly Langley, or Kathy McKean. Again, student names or school names will not be used in this study. Thanks in advance for your help.

Sincerely,

Jim McCharen

cc: Kelly Langley, OTAC
Kathy McKean, OTAC

APPENDIX C

LETTER OF INSTRUCTION TO ALTERNATIVE SCHOOL DIRECTORS REGARDING PLACEMENT SURVEYS

May 1, 1998

Jim McCharen
12425 Croydon Rd.
Midwest City, OK 73130

(Director's Name)
(Name of Alternative School)
(Address of Alternative School)

Dear (Name of Director):

As per our phone conversation, I am enclosing letters of instruction, student consent forms and blank envelopes, for graduating students who would consent to participating in a follow-up survey regarding their placement status approximately three month after graduation. Please distribute these items to the appropriate students willing to participate and return addressed envelopes and consent forms to me in the enclosed stamped manila envelope.

If you have questions please contact me at 405/769-9882.

Thanks in advance for your assistance.

Sincerely,

Jim McCharen

APPENDIX D

LETTER OF GENERAL INSTRUCTIONS TO STUDENTS REGARDING PARTICIPATION IN PLACEMENT SURVEY

Letter of General Instructions To Students
(For Graduating Students Only)

I am conducting a research project with support from the Oklahoma Technical Assistance Center. An important part of this study revolves around information about what students are doing approximately three months after graduation. Your help and support in getting this information returned to me will hopefully provide meaningful direction in improving education programs in the state of Oklahoma.

If you are willing to participate in a very short questionnaire please put your name and address on the provided envelope and sign the consent form. Please write legibly. You will be mailed a short questionnaire in August, 1998. All responses will be kept confidential and the questionnaire will not contain names or require signatures.

Your input for this project is valued. Thanks in advance for your cooperation.

Sincerely,

Jim McCharen

APPENDIX E

STUDENT CONSENT FORM

Student Consent Form

I, _____, hereby authorize the release of my
(Name of Student)
mailing address to Jim McCharen for the purpose of receiving a questionnaire after graduation. This questionnaire will contain a few questions concerning my employment situation approximately three months after graduation. I understand that my name will not be required on the questionnaire. I understand that participation is voluntary, and that there is no penalty for refusal to participate. I have read and fully understand the consent form. A copy has been given to me.

Signed: _____
(Signature of Student)

Date: _____

APPENDIX F

STUDENT PLACEMENT QUESTIONNAIRE

LETTER OF INSTRUCTIONS

August, 1998

Jim McCharen
12425 Croydon Rd.
Midwest City OK 73130

Dear Former Student:

This is a follow-up to the survey in which you agreed to participate last spring. As a reminder, I am conducting a research project with support from the Oklahoma Technical Assistance Center. An important part of this study is information regarding what graduates are doing approximately three months after graduation.

Please read all the possible choices and check the appropriate box. Return the completed questionnaire in the stamped, address envelope provided. All responses will be kept confidential therefore, do not put your name on the questionnaire.

Parents, if your son or daughter no longer lives at this address, please forward this letter to them or if you know the appropriate response please complete and return to me.

Your support in completing this questionnaire will provide meaningful direction in improving education programs in the State of Oklahoma.

Thanks in advance for your quick response.

Sincerely,

Jim McCharen

APPENDIX G

STUDENT PLACEMENT QUESTIONNAIRE

STUDENT PLACEMENT QUESTIONNAIRE

Please check the appropriate box that best describes your current situation.

☐ I am currently enrolled in an area vocational-technical school as an adult student.

☐ I am currently enrolled in a two year or four year college/university.

☐ I am currently in the military or will be reporting to the military in the near future.

☐ I am currently employed and work at least 30 or more hours per week.

☐ I am currently not enrolled in any type of school or not employed more than 30 hours per week.

☐ Other situation not described in any of the above statements. Please describe.

_____

_____

Please place your completed questionnaire in the stamped, addressed envelope and mail. Thanks for your help.

APPENDIX H

NON-RESPONDENT FOLLOW-UP LETTER

Jim McCharen
12425 Croydon Rd.
Midwest City OK 73130

September 15, 1998

Dear Former Student:

This is a follow-up to the questionnaire I mailed to you approximately three weeks ago. Hopefully, you recall agreeing to participate in this survey last spring by addressing an envelope at your school.

Just as a reminder, I am conducting a research project with support from the Oklahoma Technical Assistance Center. An important part of this study is information regarding what graduates are currently doing approximately three to four months after graduation.

I have enclosed another letter of instructions and questionnaire for your convenience. I would be most appreciative if you would take the time to respond and mail the questionnaire back in the stamped addressed envelope. It is very important that I receive as many responses as possible for the integrity of this project.

All responses will be kept confidential and no names or schools will be used in this project.

Thanks in advance for your important response. If you have already mailed your questionnaire please disregard this letter and thanks for your help.

Sincerely,

Jim McCharen

APPENDIX I

STUDENT PLACEMENT TRACKING FORM

TRACKING FORM

PLACEMENTS AND NON-PLACEMENTS FOR STUDENTS IN ALTERNATIVE SCHOOLS INTEGRATING VOCATIONAL COMPONENTS AND STUDENTS IN ALTERNATIVE SCHOOLS NOT INTEGRATING VOCATIONAL COMPONENTS

Voc Alternative Student Number	Placement Status 1 or 2	Non-Voc Alternative Student Number	Placement Status 1 or 2

1= Placement

2= Non Placement

VITA

Jim Bryant McCharen

Candidate for the Degree of

Doctor of Education

Thesis: A COMPARISON OF THE EFFECTS OF VOCATIONAL EDUCATION COMPONENTS AND NON-VOCATIONAL COMPONENTS ON ALTERNATIVE EDUCATION STUDENTS IN THE STATE OF OKLAHOMA

Major Field: Occupational and Adult Education

Biographical:

Education: Received Bachelor of Science in History and Health and Physical Education from Central State University, Edmond Oklahoma in May, 1972; received Master of Education degree from Central State University in May, 1978; received Standard Secondary Principal Certificate from Central State University in May, 1987; received Standard Superintendent Certificate from Oklahoma State University in August, 1991; completed requirements for Doctor of Education degree at Oklahoma State University in December, 1998.

Professional Experiences: Classroom Teacher, Central Junior High, Moore, Oklahoma, 1973-75; Classroom Teacher, Moore High School, Moore, Oklahoma, 1975-79; Classroom Teacher, Choctaw High School, Choctaw, Oklahoma, 1979-87; Athletic Director, Choctaw-Nicoma Park Public Schools, 1987- 90; Director of Student Services, Choctaw-Nicoma Park Public Schools, 1990-1991; Principal, Choctaw High School, 1991-1993; Assistant Superintendent for Instruction and Interim Superintendent, Gordon Cooper Area Vocational Technical School, Shawnee, Oklahoma, 1993 to 1994; Assistant Superintendent, Choctaw-Nicoma Park Public Schools, 1994 to present.

Professional Memberships: American Association of School Administrators; Oklahoma Association of School Administrators; American Vocational Association; Oklahoma Vocational Association; National Council of Local Administrators; Association for Supervision and Curriculum Development.