PERCEPTIONS OF SPECIAL NEEDS STUDENTS, TEACHERS AND ADMINISTRATORS REGARDING AN INTEGRATED ACADEMIC AND VOCATIONAL EDUCATION MODEL OF INSTRUCTION

by

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(ABSTRACT)

The purpose of this study was to examine how school employees and special needs students perceived an integrated academic and vocational education model of instruction. No prior studies had addressed special needs students regarding integrating academic and vocational education. Thirteen teachers, three administrators and eight special needs students from a high school in Virginia were interviewed using the open-ended personal interview method. The high school represented a "High Schools That Work" pilot project on the integration of academic and vocational education.

Emergent themes were analyzed and implications derived from this study. First, the findings suggested that changing instructional techniques enhanced integration efforts: use of alternative instructional methods, personal/ professional attitudes, cross discipline teaching, accessibility of teachers and students' ability to relate knowledge of math across academic and vocational classes. Second, this model of instruction resulted in upgraded instructional materials, and curriculum, a greater variety curriculum materials and added workplace relevance to the curriculum. Third, the most positive result of the model collaboaration between academic and vocational teachers included

collegial respect, students awareness of teachers working together and faculty demonstrated respect for each discipline area. This method of instruction also appeared to maintain student attendance and grades.

DEDICATION

To God be the Glory great things he has done!!!!! I dedicate this dissertation to my mother, Ardella, stepfather, Paul, late father Charles Sr., sister, Yolanda, brother, Charles, grandmother Maude, late grandfather William, Quintina, Angel and Clinton, Jr. All of you have given me the strength to accomplish this great task. Last but not least, this study is also dedicated to all the teachers, administrators and students for without them this study could not be possible. Also this dissertation is dedicated to my dear colleague and friend Stefan Thomore Lawrence, who passed away on December 2, 1995 thanks for all your friendship, kindness and support in this endeavor.

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Chapter 1

INTRODUCTION

The movement toward an integrated academic and vocational curriculum comprises one of the major educational trends in our country today (Wirt, 1991; Kolde, 1991; Schmidt, 1992). This movement is in response to national and regional reports that have warned of the failure of the educational system to meet the needs of students transitioning from school to work and to higher education (Bottoms, Presson & Johnson, 1992). This curricular trend is considered as one alternative to improve the quality of education and is just beginning to get underway with the longest running program almost five years old (Bottoms, Presson & Johnson, 1992). The trend is linked to federal regulations of funds for integrated academic and vocational programs which started in the 1991 school year (Bottoms, Presson & Johnson, 1992).

Although the integrated educational curricular trend is less than five years old, the integration movement itself is not new. It began with the manual training movement nearly one hundred years ago (National Center for Research in Vocational Education, 1989). It was believed that students did not learn simply through abstract study, but that they learned most effectively through hands on experience. It was John Dewey (1916) who pioneered the first "back to basics" movement in the early 1900s, a movement that combined vocational and academic education. Dewey argued that an education that acknowledged the

full intellectual and social meaning of a vocation would be the right setting for the merger of instruction, training in science, and hands on production. Furthermore, he argued for the study of economics, civics, and politics to bring the future worker into touch with the problems of the day and the various methods proposed for its improvement. According to Dewey (1916), limiting education to a single approach was absurd. He further asserted that

> Such restricted specialism is impossible; nothing could be more absurd than to try to educate individuals with an eye to only one line of activity. In the first place, each individual has of necessity a variety of callings, in each of which he should be intelligently effective; and in the second place any one occupation loses its meaning and becomes a routine keeping busy at something in the degree in which it is isolated from other interests. No one is just an artist and nothing else, and in so far as one approximates that condition, he is so much the less developed human being; he is a kind of monstrosity (p. 307).

This Dewian philosophy is reflected in our society today. As the world moves toward a global economy, it is becoming increasingly important for students to remain competitive. To do so requires them to build both a broad knowledge base and achieve technological skills. In addition, many experts espouse that the contemporary workplace demands that workers not only be properly skilled to handle present duties, but also independent learners who can continue to learn on the job (Benson, 1989). Since the workplace is constantly changing, the ability to apply, transfer, and use skills in a variety of settings is the key to employment success (Caissy, 1989).

One way to better prepare technologically-skilled independent learners is through integrated strands of academic and vocational curricula. Attempts at achieving such integration are met with concern from many people about

curriculum stratification and differentiation (Apple & Weis, 1983, Giroux, 1988; Oakes, 1985; Shor & Freire, 1987; Weis, 1988). Some of the concerns center around human rights issues: If we have various curriculum strands, which students shall be given access to which strands?; Can various curriculum strands be equally beneficial to a variety of students?; What happens to students' lives as a result of tracking?

A second concern stems from a belief that the economic competitiveness and military security of the country depend on all students obtaining a "strengthened" education that includes the "basics" of English, mathematics, science, social studies, computer science and foreign language (National Commission on Excellence in Education, 1983). And a third concern is that the curriculum is not only differentiated, but it is also fragmented to the extent that many students can, without difficulty, graduate from high school without an education that prepares them well for anything--college, work, or personal life (e.g. Powell, Farrar, & Cohen, 1985).

Grubb, Davis, Lum, Plihal, and Morgaine (1991) have presented several arguments for integrating academic and vocational education. The first argument for the integrated curricula was the movement of the United States toward a service economy. This movement increased the need for effective communication skills among all employees and consumers as workers needed to be adaptable enough to fit the changing workplace. Adelman (1989) observed vocational education courses could provide a design for learning academic concepts in work-relevant situations. The Anderson Committee (1991) reported that all entry-level workers should be able to write information clearly so that others can understand and also be able to write for critical analyses and

evaluation. Adelman (1989) stated that skills required for today's jobs include effective communication, reading technical material, thinking, and using problem solving skills. Educators find themselves in a paradoxical position, namely, advocating required curricula, and accepting the reality that in many cases, schools are financially ill-equipped to make the necessary changes. Therefore, career awareness and career education should be integral aspects of the integration process (Grubb et al., 1991).

Another argument underlying the need for integrated academic and vocational curriculum is the decline in workforce growth described in Workforce 2000, which reported that by the year 2000, the workforce would be increasing by only 1% per year, a lower rate than at any time since the 1930's (Johnston & Packer, 1987). In predicting the new entrants and their levels of education, Benson (1989) indicated that only 25% of the new entrants would be academically and vocationally qualified for 75% of the new jobs. This disparity between the economy and levels of education established the need for priorities such as integrated academic and vocational education. In this regard, Benson (1989) supported the need for an integrated education.

A third argument focused upon findings in cognitive science that supported integration. The benefits of applied learning are related to problem solving and other higher-order thinking skills. These skills are necessary if graduates are to succeed and grow in their chosen vocational fields. Currently, business and industry leaders complain that high schools turn out students who have limited intellectual and technological skills. Integrated learning applies to learners at all levels of development, and can take classroom subjects out of the

realm of pure theory and into a content area that can be more meaningful for the students involved (Benson, 1989).

The final argument was that integration serves as the means to greater social justice within the educational system. Greater access can be gained through vocational programs if both the employability skills and the academic curricula prepare the graduate for the real workforce. Students must be directed away from the shopping mall approach to high school where students in the general track "mill around" in courses that may not be intellectually demanding or stimulating (Grubb et al., 1991). Moreover, students must be also freed from the tracking system that has left many students, especially low-income and minorities, in classes with lower academic content (Natriello, McDill & Pallas, 1990). The effects of a split between academics and vocational programs can be reduced as well. This split oriented from the push for academics for high achievers and the lessening of frustration and intellectual demand for low achievers (Benson, 1989).

In addition, integrated vocational and academic programs can also serve the students who become lost in the system and fail to pursue postsecondary education due to a lack of reading, writing, and math skills (Grubb et al., 1991). Responsive to this condition, American society has been committed to providing educationally disadvantaged youth useful training for the competitive job market, thereby assuring equitable participation in the technological and scientific process (William T. Grant Foundation, 1988).

Integrated academic and vocational education curricula can decrease isolation and increase motivation and self-esteem by bringing these students together in a common learning experience with their peers. Several benefits can

be derived from the integration of academic and vocational education ranging from dropout prevention to boosting self-esteem (National Center for Research in Vocational Education, 1989). Beyond these, the benefit to the teachers is collegial collaboration. Teachers would no longer perceive themselves as "academic" versus "vocational" teachers or vice versa. Rather, their focus would be on students and how they can best help the students learn what they need (Schmidt, 1992). Indeed, the purpose of education is to provide students with knowledge and skills that they need to survive as adults and citizens.

Since the need for an integrated approach to education is well documented, the question then becomes how to make it a reality. Several approaches were presented in the literature and it quickly became clear that there is no one clear way to approach integration. Therefore, the decision to integrate academic and vocational education curricula must be based on the needs of the school, the workplace, its student body, and its faculty (Tanner, 1989). Just as integration must be planned individually for each student, so must it be planned for each community.

The state of Virginia initiated integrated academic and vocational education curricula in three school divisions in 1988 as part of the "High Schools That Work" programs developed by the Southern Regional Education Board. While research has been conducted on the benefits of integrating academic and vocational education, no studies were found which examined the impact of an integrated curricular approach. Therefore, this baseline study explored the perceptions of curricular changes in instruction, collaboration, grade point average and attendance of special needs students in an integrated academic and vocational education program.

Purpose of the Study

In order to succeed in the workplace vocational students must master the essential knowledge and skills associated with English, math, and science curriculum. The goal of those interested in integrating academic and vocational education is to improve the reading, mathematics, science, and technical problem-solving competencies of vocational students to ensure their success in the workplace (Bottoms, 1992). The main data collection procedure was the interview method. The purpose of this study was to examine the perceptions of teachers, administrators, and special needs students involved in the integration of academic and vocational education instruction used in one high school program.

Research Issues

The study will address the following research issues:

1. What changes in instruction, curriculum materials, and collegial collaboration do teachers perceive as the result of using an integrated academic and vocational approach to teaching and learning?
2. What changes in instruction, curriculum materials, and collegial collaboration do administrators perceive as the result of using an integrated academic and vocational approach to teaching and learning?
3. What is the perceived impact of the integrated academic and vocational approach to teaching and learning on grade point average and attendance of special needs students?

4. Do students perceive changes in instruction, curriculum, and collegial collaboration when they are involved in the integrated academic and vocational education approach to teaching and learning?

Limitation of the Study

Several limitations impinge upon this study. The primary limitation of a study of this nature was that the interview method was susceptible to interviewer bias and researcher effects. The quality of the interview relied upon the ability and willingness of the respondents to articulate perceptions and to share accounts of experiences which were personal and confidential. The quality of the conversation and interaction between the researcher and participants was contingent upon the rapport established and maintained by the interviewer.

This study was targeted to everyone that fit the criteria including students, teachers, and administrators using the integrated academic and vocational education approach in one high school in Virginia in the spring of 1994. Due to the nature of this study and the small number of participants, the results can be generalized only to samples and settings similar to those in this study.

Definition of Terms

The following terms are defined as they apply to this study:

Collaboration -to work in conjunction with another or others, to co-operate (Simpson & Weiner, 1989).

Curriculum materials -instructional and related or supportive material, including materials using advanced learning technology (U. S. Congress, 1990c).

Instruction -a process by which knowledge and skills are developed in learners by teachers or, by instructional devices (Hawes & Hawes, 1982).

Integration -the interweaving of academic and vocational programs to produce students with both basic skills and vocational preparation (Buzzell, 1990, p. 10).

Perceptions -sensory impressions that people have of the world around them and how they feel about their specific environment (Bartley, 1958; Schnake, 1991).

Special population students -in this school system these students scored in the 25th percentile on the National Assessment of Education Progress Test (Rockbridge High School, 1992).

Significance of the Study

This investigation represented the first major effort to analyze perceptions of special needs students, teachers, and administrators regarding an integrated academic and vocational education approach to learning. Consequently, it may serve as a baseline data source for further research. The study provided expanded knowledge about perceived changes in curriculum materials, and collaboration among colleagues.

This information has implications for those educators regarding upgrading or eliminating remedial courses, discarding old books for new ones, providing workshops for teachers to upgrade their skills which, in turn, enhances collaboration for the entire faculty. In addition, this descriptive study of perceptions may provide helpful tips to those who have or are considering adopting an integrated approach to teaching and learning for their school system. Finally, this is a study for educators who believe that the integration approach will enhance the education of the entire student body.

Chapter 2

REVIEW OF THE LITERATURE

This research focuses on the perceptions of academic and vocational integration upon the roles of the major actors--teachers, administrators, and special needs students and their perceptions toward integration. The literature review addresses three major areas relevant to this study: a) history and legislation of vocational education; b) special populations; and c) integrated academic and vocational education models.

History and Legislation of Vocational Education

Wirth (1971) clarified John Dewey's attitude toward integrated learning and related views to those of Thomas F. Green and Frederick Herzberg. Green (1966) argued that a central problem of our time was to help people find work to accomplish. He further argued that automation reduces many jobs to monotonous routines which might otherwise be viewed as a person's work or creative endeavors. Herzberg (1966), on the other hand, proposed reorganizing job life so that more people could experience a sense of meaningful vocation within their employment roles. Much earlier John Dewey had reminded us that "a calling is also of necessity an organizing principle for information and ideas, for knowledge and intellectual growth" (Wirth, 1971, p. 362).

Wirth (1971) explained that Dewey was one of the first scholars to advocate integrating job training and traditional school practices. His dream seemed to be realized with the introduction of vocational education legislation with the first Morrill Act of July 2, 1862 (Wirt, 1971). Vocational education legislation changed many times from 1862 through the Carl D. Perkins Act. Vocational education gained momentum through the passage of the 1887 Hatch Act, the second Morrill Act of 1890, the 1906 Adams Act, the 1907 Nelson Act, the 1914 Smith-Lever Act, and through the passage of arguably the most important vocational education act--the Smith Hughes Act of 1917. The Smith-Hughes Act was authored by Senator Hoke Smith and Representative Dudley M. Hughes, both of the state of Georgia. The Act passed on February 23, 1917. The Smith-Hughes Act (Vocational Act of 1917) created the Federal Board of Vocational Education and provided millions annually with cooperation of the states for vocational education/trades and industry/home economics. To this date, the Smith-Hughes Act of 1917 is the only continuously funded vocational legislation (Wirt, 1971).

Amendments in 1963 and 1968 of the Vocational Education Act authorized funds for state departments of vocational education to promote growth to enhance special needs students' participation in vocational education. The Vocational Education Amendments of 1968 were the first to mandate set-asides for special populations: 15% for disadvantaged populations (US. Congress, 1968). The Amendments of 1972 and 1976 maintained set-asides. The Carl Perkins Vocational Education Act of 1984 (P.L. 98-524) increased set-asides for these special populations: 22% for disadvantaged and 10% for disabled. Special needs populations were assured: a) placement in the least

restrictive environment; b) coordination of vocational education; c) equal access in recruitment and enrollment in the full range of vocational programs; d) assessment of interest, aptitudes and special needs; e) guidance and counseling services; and f) adaptation in curriculum, instruction, equipment and facilities (US. Congress, 1984). This act, P.L. 98-584, provided a full range of services for special populations provided by recipients of federal vocational education monies (Cobb & Albright, 1988).

In 1990 the Carl D. Perkins Vocational Education Act legislation was amended and renamed the Carl D. Perkins Vocational and Applied Technology Education Act (P.L. 101-392). It removed set-asides for special populations; still, Section 118 maintained the assurances and access originally set forth in 1984. The new law emphasized vocational education as an educational delivery system not a content area. The 1990 law shifted emphasis away from the traditional job skills orientation of vocational education to a broader purpose of reassessing vocational education as a method of learning academic skills and for connecting thought with action (Wirt, 1989).

The re-authorized Carl D. Perkins Vocational Education and Applied Technology Act, effective July 1, 1991, enables Congress to spend up to $1.6 billion a year on state and local programs that teach the skill competencies necessary to work in a technically advanced society. The act reads as follows:

> It is the purpose of this act to make the United States more competitive in the world economy by developing more fully the academic and occupational skill of all segments of the population. This purpose will principally be achieved through concentrating resources on improving educational programs leading to academic, occupational, training, and re-training skill competencies needed to work in a technologically advanced society (American Vocational Association, 1990, p. 49).

The Carl D. Perkins Vocational and Applied Technology Act of 1990 mandated that the United States General Accounting Office (GAO) study implementation and effects of the new Carl D. Perkins Vocational and Applied Technology Act. Buzzell (1990) stated that the results of the GAO study will have an enormous impact on the scope of the next re-authorization. If the GAO should show that the vocational education enterprise, in its expenditure of federal dollars, has not produced the anticipated outcomes, primarily to show documented advances in basic skills, job skills, and job placement for special populations, then the system will be judged to have failed.

An Omnibus survey conducted in the spring of 1992 was completed by vocational education administrators who addressed questions and issues regarding the condition of vocational education and the Perkins Act (National Assessment of Vocational Education, 1994). The results from this survey revealed an increase of 52 secondary schools that had revised their curricular frameworks for academic and vocational integration in 1991 and an increase of 63 in 1992.

> The most widespread practices reported for 1991-92 were a) helping purchase applied academic and other curriculum materials from commercial vendors, b) providing in-service training for vocational teachers on integration, c) providing technical assistance for administrators, and d) funding pilot projects that integrate academic and vocational education (National Assessment of Vocational Education, 1994, p.310).

Betsy Brand, Assistant Secretary of Education for Vocational and Adult Education (1990), stated that the agency will require state administrators to be

accountable for meeting established goals. Clearly, one of the goals of the 1990 Carl D. Perkins Vocational and Applied Technology Act was integration of academic and vocational education. Vocational educators will now be held accountable for documenting evidence of quality and compliance with that goal.

Special Needs Population

Individuals with special needs are those persons who need additional assistance or services in order to enter a regular vocational education program and successfully complete the requirements (Sarkees & Scott, 1986). This alternative, or non-traditional assistance, may be in the form of support services, teaching techniques or curriculum modifications in the school setting. This population includes both youth with disabilities and disadvantaged individuals as well as other minority or ethnic groups, persons with limited English ability, persons in correctional facilities, migrant workers, and persons who are gifted and talented (National Center for Research in Vocational Education, 1989).

Special needs students represent a diverse population of learners who possess a variety of distinct learning styles. All special needs learners will have different strengths and abilities, needs and occupational goals which educators must address (Sarkees & Scott, 1986). If educators are to accommodate these students in the classroom, then a variety of techniques and programs should be considered when designing their instructional programs. Sarkees and Scott (1986) defined these "special needs learners" as those individuals who encounter or are likely to encounter difficulty in educational or employment settings because of a disability, economic or academic disadvantage, different linguistic or cultural background or outdated job skills.

Wircenski and Izzo (1991) indicated that minorities will comprise 29% of the population by the year 2000. While many adults and youth will be borderline illiterate, they will find it difficult to train for jobs due to lack of skills. According to Wircenski and West (1990), combined attempts must be made by academic, vocational, and support personnel to prepare special needs learners with an integrated program of vocational and academic skills that will make them employable. The workplace will demand individuals entering the labor force to possess basic academic skills necessary to obtain employment. The above mentioned combined effort ensures special populations a fair chance in the workplace (Wircenski & West, 1990).

The Commission on the Skills of the American Workforce (1990) stated that our front-line workers will not be able to compete in the economic arena because they are increasingly unable to compete in the educational arena. Pea (1987) suggested that, in general, concepts, strategies, and skills should be taught in a problem-solving context where their functions are rendered apparent. Such functional presentations and the emphasis on learning by doing makes it more likely that the knowledge will be accessed and transferred to new problems. The inability of students to perform well in any type of problem-solving assessment supports this rationale.

Special needs students learn best by doing. Ideas are more readily understood and appreciated when they are embedded in a context (Means, Chelmer & Knapp, 1991). The changing nature of jobs of the future is that they will require workers with a much wider range of competencies and skills than ever before. Miller (1983) contended that the accelerating pace of the technological advancement has made it less likely that workers will hold the

same job throughout their working lives; and the increasing economic pressures brought to bear by a global economy have made it far less likely that workers will begin and end their lives at the same organization.

Integrated Academic and Vocational Education Models

The Commission on the Skills of the American Workforce (1990), established that America faces an urgent choice: high skills or low wages. The Commission predicated that, in sharp contrast to our competitor nations in Europe and Asia, our economy has not been providing the kinds of jobs that can support a better standard of living for the majority of Americans. Maddy-Berstein & Coyle-Williams (1995) stated "changes in the country's demographics and education's failure to serve all students raise concerns for the future of the American economy" (p. 156). To change these conditions, the Commission identified two interrelated problems that must be solved: a) we largely abandon dropouts from the system and b) most students and workers flounder during the transition from school to work. We have no clear comprehensive transition system from high school to productive work for the majority of students who are not college bound.

Therefore, career awareness and career education are integral aspects of the integration process so that students can make informed choices about their future (Grubb et al., 1991). For the integrated academic and vocational education program to have broad appeal, subjects must engage the interest and energy of students headed for four-year colleges as well as those who plan to work or pursue technical studies (Wirth, 1992). The National Commission on Excellence in Education report, A Nation At Risk (1983), and The National Commission on Secondary Vocational Education report, The Unfinished Agenda

(1984), both observed that increased academic requirements often ignore both the differences in student interests and abilities and needs of those high school students who do not plan to go to college but who intentionally choose a vocational program. The authors of A Nation At Risk (1983) and The Unfinished Agenda (1984) disclosed the disconcerting fact that 80% of today's jobs do not require higher education; therefore, most students are not obliged to seek a college degree (National Council on Secondary Vocational Education, 1984 & The National Commission on Excellence in Education, 1984). The Commission on the Skills of the American Workforce (1990) reported in America's Choice: High Skills or Low Wages, that the United states was at a fork in the road and must choose between high performance work and education supporting this or low skilled workers and uneducated workers.

The Unfinished Agenda (1984) identified the integration of academic and vocational education as a condition that must be met in order to correct these problems. The changing nature of future jobs will require workers with a much wider range of competencies and skills than ever before. American workers must engage in lifelong education in order to be effective in the workplace. This can be done by using an integrated model. Eight models for integrating academic and vocational education have been recognized by (Grubb et al., 1991). Each model will be described in the following paragraphs.

The first model, Incorporating Academic Content in Vocational Courses, suggests adding competencies to vocational classes is the least expensive and least disruptive method. In spite of these advantages, this type of integration has not been particularly effective in increasing student knowledge. For this form of integration to be successful, the academic competencies need to be

added to the curriculum on an ongoing basis, and not in separate drill and practice efforts (Schmidt, 1992).

In the second model, Linking Academic and Vocational Teachers to Enhance Academic Competencies in Vocational Courses, several approaches can be taken to effectively teach academics in the vocational classrooms including modules, team teaching, co-development of curricula, and working with individual students. This means more than a packaged curriculum that adds the three R's to vocational classes, but involves a collegial team effort between academic and vocational teachers. This integrated approach has a variety of advantages "in which the distinctions between academic content and vocational material will begin to disappear" (Grubb et al., 1991, p.25).

The third model, Making the Academic Curriculum Vocationally Relevant, is a pullout method which employs applied courses, necessitating vocational information being taught in the academic classroom. Therefore, the integration is the primary responsibility of the academic teacher. The key factor is the applicability seen in the academic content that is being learned. This can often lead to a higher core content of information being taught to vocational students (Babich & Cassity, 1990). The applied course method of integration allows teachers to teach the same content to all students through differentiated means, as opposed to the previous strategy (The National Center for Vocational Research, 1989). The other type of argument - vertical - promotes integration through the sequencing of courses to allow students to build upon knowledge already acquired as they proceed through to a vocational degree.

In the fourth model, Curricular Alignment, Modifying Both Academic and Vocational Courses, there are two forms of curricular alignment that can be

undertaken. First, there is horizontal alignment which coordinates courses which students take concurrently. Students learn in related academic and vocational courses sequenced to allow them to build upon acquired knowledge as they attain vocational preparation. Students are learning about related topics/subjects in both academic and vocational classes. An example is math students learning about algebra at the same time that they are answering algebra questions in auto body class. Secondly, is vertical alignment, which addresses integration by sequencing courses so that students build upon knowledge already acquired while pursuing a vocational diploma. Modifications are made in the academic as well as vocational curricula to incorporate the information into both disciplines. Collaboration between the academic and vocational teachers is one of the keys to success in this model. This usually involves the cooperation of both academic and vocational teachers and has resulted in some exciting curricular and pedagogic experiments. Grubb et al., (1991) reported that "in every school we visited where teachers are cooperating in some form of alignment, the results are literally thrilling" - teachers discover parallels and work together to bridge conventional disciplinary boundaries. There are two goals for integrating academic and vocational education according to Schmidt, Beeken, and Jennings (1992), and they are as follows: (1) to provide all students with occupational, academic, and higher-order thinking skills in order to function effectively in society, and (2) to integrate students' learning by encouraging them to recognize and solve problems and reinforce hands-on learning.

The fifth model, The Senior Project as a Form of Integration, is used in some schools which require graduating students to complete senior projects.

This project incorporates course content from all of the courses the student is taking in his or her senior year. These projects can be either academic or vocational in nature. Students often begin preparing for the project as early as the ninth grade. Collaborative aims can be accomplished through this model (Grubb et al., 1991).

The goal of the sixth model, The Academy Model, is to achieve alignment so that students traveling through the academy can learn content that is reinforced by both academic and vocational teachers. Students in this model travel as a group within the classes they take and remain with the same teachers for the years they are involved in the academy. Results of the academies in California include lower dropout rates, greater course completion, and higher self-esteem among the students (Grubb et al., 1991).

In the seventh model, Occupational High Schools and Magnet Schools, these schools are specialized to a particular area of interest and that occupational area is the basis for the curriculum. One of the underlying assumptions in the formation of this school is that all students need both academic and vocational training. Students are provided with an extended day to allow for academic classes as well as vocational, and tracking is minimal.

In the last model, Occupational Clusters, Career Paths, and Occupational Majors, teachers are organized along occupational lines rather than academic and vocational divisions. This form of integration is more difficult to achieve than simple collaboration, but the payoffs are greater, too (Grubb et al., 1991). Students elect a cluster and follow a sequence of vocational and academic courses to complete the requirements of the cluster. Students are provided with broader occupational skills to make themselves more mobile in the job market.

Some of these students have college aspirations as well as vocational interests, and thus tracking is reduced by the combination of these students into a single class. The variety of skill levels among students of a cluster also provides motivation for teachers to teach advanced academics in the vocational classroom. This approach provides teachers with greater opportunities to make academic subjects vocationally relevant to their students. Collaboration between teachers and the business community is promoted by this approach (Grubb et al., 1991). In a Southern Regional Education Board survey, all teachers helped students in their vocational studies master high-level competencies by integrating academic and vocational studies (Bottoms, Presson, & Johnson 1992). Occupational Clusters, Career Paths, and Occupational Majors model provides an example of opportunity for teachers to come together around particular tasks which define needs of students in various areas; these are the means needed for productive collaboration.

The above eight models have been met with enthusiasm. However, there is no data to support the success or failure of any particular approach (Plihal, Johnson, Bentley, Morgaine, & Liang, 1992).

Benefits of Integration

In order to integrate academic and vocational education, teachers must collaborate to merge disciplines. Collaboration is a relationship based on sharing where two parties, not necessarily having a meaningful relationship, find a common denominator which is translated in a shared commitment (Asselin, 1993). Collaboration is dually established in a persuasive manner by two or more parties who share contributions, commitment, and responsibility in time as

well as in space. Furthermore, integration can be regarded as a form of collaboration.

Boyer (1983) noted that teachers of vocational and academic subjects rarely work together toward common goals and, more often than not, have little comprehension of what other teachers are teaching. Conceptual performance among teachers to achieve collaboration appears to be more productive where there is a clear task to be undertaken (Grubb et al., 1991). Barbieri and Wircenski (1990) suggested ways to integrate curricula: a) assemble a good writing team, b) open lines of communication among all involved; c) leadership traits from the coordinator of this project; and d) plan activities to increase student participation in the integrated curriculum.

Collaboration will not only make what is learned more useful for all students, but also increase what is learned; therefore, the students will retain more information (Beck, 1991). According to Beck, Copa, and Pease (1991), collaboration is only a thin edge of the wedge which leads to higher purposes and richer processes in education.

According to Schmidt (1992), some effective collaborative efforts were: a) vocational and academic teachers observing each other; b) academic and vocational teachers teaming to secure consistency of basic skills with students both share; c) using each other's books; and d) talking with each other prior to the school year to elaborate on students' needs in their classes. While there are some definite advantages of collaboration for both students and teachers, there also exists some limitations to the collaboration process. Some suggested problems of collaboration are: vocational teachers feeling insufficiently prepared to teach academic courses; vocational centers being located away from the high

schools, thus creating problems for teachers getting together; students having problems in academic classes that vocational teachers do not recognize, and a lack of relevant instruction in many academic classes. By collaborating, academic and vocational teachers combine knowledge, ability and assets of several individuals and agencies in a common effort to provide a successful vocational education for a special learner (Greene, Albright, & Kokaska, 1989).

Collaboration benefits both teachers and students. Hazelkorn and Lombard (1991) found that the collaboration of special and vocational teachers resulted in less conflict, greater communication, increased problem-solving among the two, and an expression of shared resources. This collaboration helps students with disabilities to learn vocational competencies in the least restrictive environment while also breaking down the barriers against peers with disabilities and establishing positive relationships (Hazelkorn & Lombard, 1991).

Depositing more academic content into vocational courses is vital in developing skills of students who are able to apply abstract knowledge in new and challenging situations on the job and in life. Vocational teachers can assist students having varying degrees of knowledge understand the importance of English, mathematics, and science by making vocational labs an extension of academic learning. The next step is to revise what is taught in vocational courses so that students study related academic concepts sequentially in particular vocational fields. Benefits range from a decrease in dropouts to an increase in positive teacher morale to boosting students' self-esteem. The time is right to begin integrating academic and vocational education in every school. Grubb et al., (1991) pronounced that the new Carl D. Perkins Vocational Education and Applied Technology Act (1991) amendments furnished vocational

education both a challenge and an opportunity. With awareness and management, teachers, policy makers, and administrators can forge together a new vision for American schools. Silberman, Herr and McDaniels (1991) stated it best: "It is just as important that our future surgeons, managers, and engineers be exposed to an integrated curriculum as it is for our future mechanics, technicians, and service personnel" (p.30). A study by Bodilly (as cited in Maddy-Bernstein & Coyle-Williams (1995), stated problems in the curriculum that could be over turned by using an integrated curriculum some were: negative effects of tracking, poor work skills of new applicants and students unsuccessful transition to college or work.

Summary

The above review of literature summarize the integration of academic and vocational education. Grubb et al., (1991) identified eight models to employ begin integrating in secondary education programs. This chapter presented studies supporting the need for integrating academic and vocational education in schools. Evidence was provided which illustrated the skills that the workforce is demanding schools to provide. However, the literature is currently lacking research to verify factors that affect integrating academic and vocational education for special needs students. This study attempts to fill the gap by seeking data from educators, special needs students and administrators regarding an integrated academic and vocational education approach in a high school in Virginia. The methodology under which this study was implemented is detailed in Chapter Three.

Chapter 3

METHODS

The purpose of this chapter was to describe the research methods selected for use in this study. Specifically, it focused on the research design and the methods for selecting the population, collecting the data, and analyzing the data.

The following research issues guided the study:

1. What changes in instruction, curriculum materials and collegial collaboration do teachers perceive as the result of using an integrated academic and vocational approach to teaching and learning?
2. What changes in instruction, curriculum materials and collegial collaboration do administrators perceive as the result of using an integrated academic and vocational approach to teaching and learning?
3. What is the perceived impact of the integrated academic and vocational approach to teaching and learning on the grade point average and the attendance of special needs students?
4. Do students perceive changes in instruction, curriculum, and collegial collaboration when they are involved in the integrated academic and vocational education approach to teaching and learning?

Research Design

A qualitative design was selected to frame the research procedures for this study. Since qualitative research is concerned with process rather than outcomes or products (Bogdan and Biklen, 1992), this methodology is the most

appropriate for recording perceptions of those involved in using an integrated academic and vocational education approach to learning. Qualitative research is also concerned with the values and assumptions that people bring to any situation and how those values and assumptions may or may not change over time. Although debate exists as to the validity of using strictly qualitative versus quantitative methods, the qualitative method was selected because of its appropriateness to this study, understanding perceptions of educators and special needs students. Berg (1989) differentiated between qualitative and quantitative approaches by suggesting that qualitative research referred to the meanings, concepts, definitions, characteristics, metaphors, symbols, and descriptions of things while quantitative research referred to counts and measures of things. Glaser & Strauss (1978) described the general analytical procedure as being one where the researcher will

> elicit codes from raw data from the start of data collection through constant comparative analysis as the data pour in. Then to use the codes to direct further data collection, from which the codes are further theoretically developed with respect to their various properties and their connections with other codes until saturated. Theoretical sampling on any code ceases when it is saturated, elaborated and integrated into emerging theory (p. 36).

Investigating educators' and students' perceptions focus on the process involved in an integrated approach to teaching and learning. Qualitative research produces descriptive data (Guba & Lincoln, 1985), written words and people's own spoken words. A qualitative design of data collection was appropriate because of the descriptive nature of the data and the reliance on personal interviews as the data source. McCracken (1988) "...emphasizes that the investigator cannot fulfill qualitative research objectives without using a

broad range of his or her own experience, imagination, and intellect in ways that are various and unpredictable..." (p.18).

Thus, the researcher used her knowledge and experience "...to find a match for the patterns evidenced by the data" (McCracken, p.18, 1988). An interview schedule was developed by the researcher to collect data for this study. The interview was designed such that participants were allowed to tell their stories in their own words. Qualitative studies have particular value for types of research that delve into complexities because they allow the researcher to obtain in-depth information and follow avenues of inquiry that may only reveal themselves during the data collection process itself (Marshall & Rossman, 1989; Taylor & Bogdan, 1984). It is a research method that is particularly appropriate when part of the complexity is that the boundary between the phenomenon and its context is not clearly evident (Yin, 1989). The qualitative researcher looks at people, settings and the phenomenon of interest holistically without reducing them to discrete variables (Taylor & Bogdan, 1984). Research attempting to reveal the nature of individuals' experiences in order to understand what lies behind a phenomenon about which little is known, lends itself to qualitative study because it provides the opportunity for the researcher to build theory by inductively developing insights from patterns in the data (Strauss & Corbin, 1990; Taylor & Bogdan, 1984).

This qualitative study takes a phenomenological approach to the investigation of perceptions of students, teachers, and administrators regarding an integrated approach to teaching and learning. A basic assumption underlying the phenomenological approach to research is that it is the subjective experience of those who live it and not the objective facts external to individuals

that are of crucial importance in an in-depth study of specific social groups (Snygg & Combs, 1949). However, a phenomenological approach to research".... does not deny the facts of external observation, it stresses the meanings of the externally observed facts for the individual himself" (Snygg & Combs, 1949, p. 246). Although inquiry in this study included aspects of participants' perceptions, the data collected were those aspects of the facts that had meaning for the participants and were subject to participants interpretations.

Interview Schedule

The interview questions were designed to address the following content areas: changes in instruction, curriculum materials, collegial collaboration, and perceived impact on grade point average and attendance of students. The questions were based on themes emerging from literature review and factors from an integrated environment. There were two different Interview schedules used in this study. The teacher and administrator interview instrument asked the same questions for continuity and consistency; additionally, the instrument was short and to the point. The student instrument asked the same questions but provided more instructions. A copy of the interview schedules appear in Appendix A.

Lythcott and Duschl (1990) provided a rationale for qualitative research evolving from research questions well suited to investigation by way of interviews. They suggested that through this method the value of data, with respect to the appropriate research question, was directly linked to having participants talk freely and at length, using their own words and their own meanings. It was from data of this nature that conclusions about the participants' perceptions could be drawn.

These questions were designed to determine perceptions of special needs students, teachers, and administrators regarding an integrated approach to teaching and learning. Guba and Lincoln (1985) suggested that the ability to tap into the experience of others in their own natural language, while utilizing their value and belief frameworks, was virtually impossible without face-to-face and verbal interaction with them. The open-ended response format permitted greater freedom of expression for the participants and provided a wider range of responses (Ary et al., 1990). Data analysis and research design involved conducting interviews with special needs students, teachers, and administrators.

Another advantage to the interview schedule was its appropriateness as a method of qualitative inquiry which goes into someone's mind. Participants were interviewed to find out from them things that could not be directly observed. The nature and process of the perceptions of integrating academic and vocational education could not be directly observed, thereby making in-depth interviewing necessary.

In addition, Patton (1980) believed that researchers could not observe everything such as how people have organized the world and the meanings they attach to what goes on in the world. Patton argued that such perceptions or frameworks need to be understood. He suggested that the purpose of interviewing was to allow the researcher to enter into the other person's perspective.

Another advantage to personal interviews is that information obtained is more likely to be correct than that obtained by other methods because one can clarify misunderstandings as they arise during the interview (Miller, 1970).

Interviews also allow the researcher to collect data and observe personal characteristics that are valuable when interpreting the data.

An interview schedule was used to provide structure to the process. (See appendix A for interview schedule.)

Selection of Participants

The purpose of this study and the selection of the respondents were discussed with the principal of the school. Following this discussion, the principal, assistant principal, and guidance counselor provided a list of all the special needs students, teachers, and the administrators eligible to participate in this study. The basic criteria for the students were: identified as special needs students, and graduating seniors in 1994. These students were involved in the process of the integrated academic and vocational education model over the preceding four years. The students participated from the ninth to twelfth grade. The students were identified by the principal of the school as those students scoring below the 25th percentile on the National Assessment on Educational Progress (NAEP) test. The eight special needs students were all seniors and included seven boys and one girl who met the criteria for the study. The thirteen teachers who participated in this study had bachelors degrees and seven of them held masters degrees. The teaching experience of these teachers ranged from seven years to twenty-five years. There were twelve white and one African American, with eleven being female and two male. The administrators had advanced degrees with one near completion of the doctorate. They were all white, one female and two males with experience ranging from twelve to fourteen years. These teachers and administrators were working in the three separate high schools that merged with the vocational center to become

one consolidated high school in 1992. These thirteen individuals are currently employed in the new consolidated school.

Thirteen teachers, four administrators, and nine special needs students were identified for a total of 25 respondent participants. One student declined to be interviewed. One administrator was identified and interviewed, but the tapes could not be transcribed due to technical difficulties. Anonymity was assured through both the confirmation letter, consent form and ethics protocol in Appendix B.

High Schools That Work

In 1981 the Southern Regional Education Board (SREB) published a document entitled "The Need for Quality". This report prompted states, schools and colleges to work to develop higher standards and raise the achievement levels of students. SREB wanted academic standards raised for all students regardless of their interest in college prep or vocational studies. This prompted school divisions to drop general courses and replace them with higher level courses. In 1985, SREB stated that the two major themes were: 1) to improve academic skills of high school students by incorporating vocational education and 2) to devise pilot programs to merge academic and vocational education for all students.

The SREB established a "High Schools That Work" program in 1985. Each state which participated was required to support at least two pilot sites. The 1984 Carl Perkins Vocational education legislation also supported this directive which sought to strengthen basic skills of vocational students. The 1990 Perkins legislation amendments mandated that integration of academic and vocational education be in place for a division to receive vocational funding.

In 1987, request for proposals were distributed throughout the state of Virginia and the top three proposals to establish pilot programs were selected for funding, one each from a rural, suburban and an urban school. The SREB consortium provided useful data and technical assistance to the pilot sites to get them started. In addition, numerous teacher workshops were held as part of an on-going training and development attended by all personnel involved (Bottoms, Presson, & Johnson, 1992).

Description of School Division

The school in which this study was conducted was one of three high schools and one vocational school located in a rural county in Virginia. The schools were chosen by the Virginia Department of Education to participate in the Southern Regional Education Board as a "High School That Works" pilot site for integrating academic and vocational education (Bottoms et al., 1992). In 1992 the high schools were consolidated with the vocational center and opened with 1200 students and 75 teachers. The current student population in the school is approximately 3000.

The school successfully integrated academic and vocational education by using Grubb's et al.,(1991) "Curricular Alignment" model. The basic components of this model are a horizontal alignment which coordinates courses students take concurrently. Students learn in related academic and vocational classes, and courses are sequenced to allow students to build upon acquired knowledge as they attain vocational preparation. The average annual per pupil expenditure is $2,278. Students come from a low to middle socio-economic community which does not include a wide diversity of cultures and backgrounds. Approximately 2 and 1/2% of the student body is minority. A recent survey by the school division

shows that 80% of the student body comes from a two-parent household. There are nine public schools in the county: five elementary schools, two middle schools, one high school, and an alternative education center.

Technical preparation programs of studies for students no longer contained general courses (courses without career goals) or low level courses. Applied courses in mathematics, English, biology, chemistry, and physics were offered for students in vocational/technical programs. Emphasis was placed on science and math courses for vocational completers. To complete a vocational/technical program, students were required to take a minimum of three units of science and three units of math for graduation. A learning skills course was required of all entering students whose reading level fell within the lowest quartile of reading ability on the NAEP test.

Procedures

A pilot study with three participants in the same setting was conducted for the purpose of refining the interview schedule, establishing time lines for interview sessions, and perfecting the data collection process. One teacher, administrator, and student were selected for the pilot interviews which were conducted in the spring of 1994. Each pilot interview lasted approximately twenty-five minutes. Several procedural adjustments were made as a result of the pilot interviews. The researcher reversed the order in which the questions were asked. It was decided to collect perceptual reactions first and the demographic information last. Eleven questions were deleted from the interview schedule because they were collapsed and reworded. In addition, several adjustments were needed to allow for a quality audiotape that could be transcribed with ease.

The order in which the questions were presented was instruction, curriculum materials, collegial collaboration, grades and attendance for the teachers and administrators. The order of the students' questions were courses linking together, curriculum materials, changes in teaching methods and collaboration among teachers. The original number of questions on the survey was twenty which were reduced to nine. Only questions related directly to the research issues were retained. Eleven questions were eliminated due to lack of clarity. The time span of the interviews lasted from ten to fifteen minutes for the teachers, twenty to twenty five minutes for the administrators and ten minutes for the students. The interview schedule was pilot tested and reviewed by the research advisor who, in turn, approved it after the corrections were made to reword the unclear questions.

Data Collection

Data were collected from this study over a one-week period in May, 1994. The teachers and administrators were the initial personnel for the pilot program at this school. Prior to the interviews, special needs students, their parents, teachers, and administrators were sent a letter detailing the purpose of the study. The time of the interviews was established by a visit with the principal of the school and a list of students, teachers, and administrators involved in the program was obtained. The principal supplied the researcher with a list of planning periods for all teachers, and class schedules of the eight students involved. The teachers were interviewed in the teacher's lounge or their classroom during the planning period. The administrators were interviewed in their offices at convenient times. The students were interviewed in the study

hall classroom or their vocational classroom. Students were interviewed in a familiar surrounding to make them more comfortable.

Data Analysis

Specific systematic procedures were used to analyze data. The data were coded by the researcher for as many themes as possible. Joint collection, coding, and analysis of data are basic to qualitative methods of inquiry. The data analysis consisted of examining, categorizing, combining, and recombining the information which addressed questions for this study. This was an ongoing process, the first step of which was data reduction (Miles and Huberman, 1984). This involved determining which information was to be coded, which was to be discarded, and determining what theme(s) may emerge (Miles and Huberman, 1984). The next step involved having the full text of the interview transcribed. These interviews allowed the researcher to reflect on the information and determine main issues, themes, or problems noted during the contact.

The text was typed and numbered. Miles and Huberman (1984) state, "Without such reflection, it is easy to get lost in a welter of detail" (p. 50). Transcription of each interview required one hour. The total time spent in transcribing data was twenty-eight hours. The final step was referred to as narrative text by Miles and Huberman (1984) which, is ...an organized assembly of information that permits conclusion drawing and action taking (p. 21). This was accomplished by designing a chart to record the responses of the students, teachers, and administrators. This allowed the researcher to discern the emerging themes from the data. Themes were determined by examining items most frequently mentioned in response to each question.

Summary

The above methods includes the research design, interview schedule, selection of participants, high schools that work, description of the school division, procedures, data collection, data analysis and summary used in this qualitative study.

Chapter 4

RESULTS OF STUDY

The purpose of this research was to explore perceptions of teachers, administrators and special needs students about an integrated academic and vocational model for instruction at one Virginia high school. The interview format was used to collect data in this study. This format generated practical information for responding to the overall purpose of the study and for providing insight on the research issues established for this study.

The population of twenty-four participants included eight special needs high school seniors, thirteen academic and vocational teachers, and three administrators. The non-student group represented the academic, vocational and special education divisions of the high school curriculum. All eight students were ranked in the lower 25th percentile of the NAEP test, which designated them as special needs students according to policy guidelines of the high school.

Data from student, teacher and administrator interviews and observations are presented in this chapter. These data include the interview responses which were recorded and transcribed, behavioral observations during actual interviews, and field notes of researcher observations of the students, teachers, and administrators in their school settings.

Four research issues were established to provide a framework for this study. Results of the data analyses are presented in relationship to each issue. Each issue contained a factor which had themes associated with it. These themes will be presented along with supportive verbatim content from the transcriptions and observations by the researcher. The participants' responses

demonstrated a strong connectedness during the analyses giving rise to several themes. These themes should not be thought of as separate units, but rather as interrelated entities which make up the perceptions of the students, teachers and administrators.

Research Issue One

What changes in instruction, curriculum materials, and collegial collaboration do teachers perceive as the result of using an integrated academic and vocational approach to teaching and learning?

This research issue addressed three factors: instruction, curriculum materials, and collegial collaboration. Three themes emerged for each factor. The themes that emerged relative to Factor I, the *instruction* factor, were altered instructional methods, personal/professional attitudes, and cross- discipline teaching. These are discussed below:

Theme one: Altered Instructional Methods are modifications or changes in teaching approaches and techniques which are designed to enhance learning. All teachers reflected to some degree on changes made personally or by others. Several examples given by teachers of instructional modifications were changing teaching styles, using new reading techniques, giving more and different types of homework, and conducting more group work in the classroom. Personal and professional attitudes were mentioned as one way the changes were noticed or the reason for the changes. Teachers changed their thought processes about other disciplines, about the students as learners, and about integration. Together these changes comprised a different orientation toward the educational process, namely, a need to deliver instruction in a different way. Although the study concentrated on perceptions of changes, teachers shared

real world examples of concrete, specific changes that were made by them. Perhaps it was those visible examples as a base which reinforced the perceptions of change.

The teachers were extremely cooperative with the researcher. The majority of the teachers were enthusiastic and energized during the interviews. They were animated in their sharing, using gestures freely, smiling as they described their programs and appeared genuinely proud to have been able to make changes. They arrived for the interviews on time and were helpful whenever the researcher needed assistance. They appeared eager to tell their stories of the changes in instruction currently being used in the curricular alignment model (Model #4 of Integrating academic and vocational education). Some of their comments were:

> I think there has been a greater awareness of the need to focus on long-range goals and tie in what we teach, as closely as possible, to things that the kids can actually use in the outside world (Teacher #2).

> You have to be a lot more flexible as far as designing projects and doing more group work, more teamwork with students (Teacher #8).

> I've used a lot more of the reading strategies in all aspects of the curriculum, which included structured overviews, anticipation guides, study guides, discussion groups, and cooperative learning (Teacher #7).

> Well, I had to learn how to teach using cooperative learning techniques. The children work in groups for a lot of their work. They do lab work in class which was never seen before in math classes. So we have videotapes that CORD has produced and we see those. A lot of teaching techniques have been changed in there. We do a lot more wandering around in class, helping students that way. One of my concerns is, when they are doing the skills part, a lot of these students, in particular these

ones here, don't read very well. This course requires a lot of reading. I think some of the behavior problems are probably caused by the fact that they have a lot harder time reading. So this year one change I made was that for when I'm teaching in what's being taught in a particular unit, I'm starting to put it back up on the board again and making them copy it as notes. They show me the notes at the end of the period and are accountable for getting all of that down. I think that's helped keep them on-task a little bit more (Teacher # 9).

I've made a lot of changes. Much more homework than I've ever assigned. Much more writing than I've ever done. Lots of emphasis on communications, more than I did before. I still need to work on my emphasis on science. I have a hard time trying to figure out, "Okay, how am I going to emphasize that?" But a lot more reading than I've ever assigned before (Teacher #12).

Theme Two: Personal/Professional Attitudes

Personal/professional attitudes refer to the way in which teachers changed their thought processes about students, other disciplines, their colleagues, and the integrated academic and vocational curriculum model. Of particular note were descriptions of newfound insights about the students. It appeared that the altered teaching strategies caused teachers to see the students in a new light. They saw individual differences, capabilities never before assumed, and needs in many ways no different than non-technical students. Some teachers expressed initial reservations about the model and its potential for improving learning, but indicated significant changes in their behavior and outlook once the project was underway. Many of the teachers were supportive of the project from its inception and found it easy to transition into new strategies. Selected comments were:

I had to accommodate the technical students. I haven't been teaching all that long. I'm not a career teacher. I've been teaching a few years since I retired from the Army. Since I retired I've been teaching primarily academic. This thing with the technical kids came along and it was a learning experience for me. I had to make some changes in some of the things I did. And, very frankly, in some of the expectations that I had of some of the technical students (Teacher #10).

I think my initial concerns were that we were concentrating on the lower percentile. It was, "Well, these kids don't care. These students do not have a real good feeling about school. Why are we putting all our effort there when we are really neglecting the middle and upper levels?" That was the biggest concern--we're leaving out two-thirds of the population and concentrating on the lower group. But after we got started and the grant got going I felt really good about it. I think as far as my personal teaching, I realize that all students, or each student, can learn. Each student learns at a different pace. If I'm doing group activities I have to remember that we need to put a strong student with a weaker student, with a middle level student. I've also found that I need to try to do individual stuff for some students. Because trying to get the whole group with one concept just won't do it any more (Teacher #6).

Theme Three: Cross Discipline Teaching

Cross discipline teaching refers to the initiation of communication between and among professionals across disciplines to assure continuity of new learning. Some of the comments are as follows:

My perception is that we're trying to teach across the curriculum and, as much as possible, incorporate. For example, I teach science so I would want to incorporate English skills, math skills, etc., into my course curriculum as much as possible. One good example of that right now is Mr. E. and I-across the hall-are team teaching genetics. So we're trying to do that. I think we can work on the applications part of our curricula more, but I think it's a slow process. I think we're gradually working on it (Teacher #7).

As I see it, it's trying to work together between vocational departments and the academic departments-the academic core-and hopefully trying to

> coordinate projects between those sets of classes to insure when students graduate they can either be ready for the workforce or they can be ready to go to college (Teacher #8).
>
> I think it started back at the old school when the vocational education department and the academic department got together. They had meetings with each other. We worked a whole year on trying to work together to set up programs to try to get the lower percentile students or the vocational students more interested in academics. From what I've seen over the last couple of years I think it has worked because the teachers are aware of the situations or the things that you have to do to get those educational students or the voc-tech students interested in academics. Working together like this they can incorporate different ways of study into getting the interest of those low percentile students (Teacher #11).

Factor II: Curriculum Materials

Curriculum materials emerged early in the analysis as a critical factor in the perception of change in an integrated curriculum. Aspects of curriculum modification were among the most frequent responses. The themes that emerged for the curriculum materials factor were upgrading materials and workplace relevance. The upgrading materials theme included numerous comments on changing the nature and content of textbooks and supplemental materials used in teaching. Several respondents talked about the removal of courses which may have been stigmatized as low-level or dumbed-down. There were strong indications that work on curriculum materials was important, that it was underway, but that the work had just begun. Selected comments were:

> Overall changes in the curriculum: I think we have gotten rid of some of the classes that really didn't do much in the past. We centered more toward careers and getting these kids involved in things that are going to

be more practical, more hands on. The curriculum is more intertwining for them and they can get out and do it (Teacher #1).

One of the things that we've done (I'm kind of wool-gathering here to get my thoughts together) is when we chose textbooks-when we built the school and choose new textbooks-one of the things we did is we deliberately did not chose some dumbed-down textbook for our courses. Kids are expected to use regular textbooks. That may sound like a little thing, but I think it's a big thing. Kids are never going to get any better if you don't give them something to work for. There are other ways that you can deal with kids who read below reading level than just to give them dumb-down books that never improve their reading. So I think that's one thing. I think a second thing, too, is that we really realize the need for different learning styles and how to approach different learning styles. I think there's a better recognition of that (Teacher #2).

In my field-US. History-we just try to incorporate more information leading toward a technical world. When they have an assignment, we gear it more toward: they could choose a inventor, for instance, or something relating to technology that interest them. Rather than having everything oriented towards presidents and First Ladies-more into inventors and history of technology. More emphasis upon development of industry and labor, like from the Reconstruction era to the 1900's and how technology affects war, etc. (Teacher #3).

We adopted new English books last year, so that's been a major change. The course content, I guess, has changed some because of the new books. We've ordered some different materials, too. I guess we have more of a variety of materials than we had two years ago at the old school, at the old school I think as far as the social studies and math, where I teach, there is a lot of different uses of supplemental material. It's starting to get better each week. I do see change, but we're going to keep improving on it. This summer we're going to try to work on some tech prep social studies-writing some curriculum for that. It's just a matter of taking it a step at a time and not biting off big chunks (Teacher #5).

For the technical prep, at least for the English classes, we have tried to experiment every year with getting some different materials. I just take junior college textbooks and run off sections from that and don't even teach from the real grammar book. I don't even use the real grammar book-the issued standard grammar book--for the seniors that much for tech prep because I've been collecting from all other sources. For the

last three of four years we've just been grabbing from all sorts of different places (Teacher #8).

We've been working on the curriculum and that's changing constantly. As I said, we're constantly talking about the underlying philosophy and why are we teaching this much literature, or why haven't we eliminated this, or should we eliminate this? It's an on-going process. But it is changing (Teacher #13).

Factor Three: Collegial Collaboration

One theme especially seemed to capture the essence of the comments shared for the collegial collaboration factor, that of collegial respect. The theme included areas such as: increased interactions across disciplines (teachers meeting with teachers), understanding more about what others do, entire faculty groups involved in workshops, less competition across disciplines, and using other teachers as consultants to teach them about their disciplines. The following is a summary of teacher responses. They agreed that there was much more coordination and cooperation than ever before, thus yielding the following responses:

There is a lot of interaction already, very much more coordination than there used to be (Teacher #1).

We do more with other departments now and talk to other departments more and cooperate with other departments more than we did when we were in a much smaller school. Going back to that Doe Run experience, that was a real catalyst from this because we really worked together that three days that we were there. I would recommend in your report that you really stress there needs to be a retreat time or something like that. Administrators need to get over this idea (we're not talking about our administrators in this school because they agree with us)...but hierarchy, way up the rung, the State Department and superintendents, need to get out of this "bring in the expert to fly in,

fly off, and fly out." That has got to stop. Teachers need time to work together. We can call on our own resources to do a lot of things that need to be done. The State Department is really a hindrance. They're not a help. Because they still want to do things the old way. They want to fly in some expensive consultants to talk to you about what you're supposed to be doing. I say, Take that money, give it to the teachers. Lock us up in a room and see what we can come up with (Teacher #2).

At first, before the program started, vocational teachers weren't aware of what academic teachers were doing and so forth. Everybody was doing their thing and there was no cooperation, no collaboration. Students were getting one thing in one class and going over to shop and not getting that and so forth. But, now that we've started this and everybody is working together, we know we can make an assignment here and the vocational teacher will follow through on it. Lots of feedback, and the kids can do one thing in one class and carry it over to another class or another discipline. I think it has had an impact (Teacher # 3).

I see a big difference. I would say probably the academic teachers have gotten more from the vocational teachers than the other way around, in the fact that I think the academic teachers just did not realize everything that was going on in those vocational classrooms. Now there's an awful lot of teachers just getting together in the hallway or before or after school, or at some time just planning periods. If it's nothing real formal, they sit down and say, "Well, I'm doing this, this and this in my class." The other person says. "Well, I'm doing this." It seems like it's real free. People are able to talk back and forth-ideas. The vocational teachers have really-I would say probably the academic teachers have gotten more from the vocational teachers than the other way around, in the fact that I think the academic teachers just did not realize everything that was going on those vocational classrooms. I've seen a lot of talking back and forth, either formally or informally. It's back and forth now. A couple of times a year we try to get the vocational teachers to sit in with the academic teachers in specific areas to try to work on some cross curriculum (Teacher # 6).

I think we're trying, we do not have planning periods that coincide Now school inservices on in-service days suit me much better...(Teacher #7).

> We like to collaborate, we get together outside of school hours, but there is very little time during the school day to do this (Teacher #4).

> One other thing--our principal has asked us to do peer observations, so we observe each other two teachers during the year. That has been wonderful. It's been a real positive experience. I think that when you go into someone else's classroom and you see the same students you have-I try to observe teachers who have my students-and see the students in a different setting, it makes you feel differently about those students. You see some new insights. It was a peer observation, but I was really looking at how my colleague interacted with the same students that I have. That was enlightening (Teacher #13).

Research Issue Two

What changes in instruction, curriculum materials, and collegial collaboration do administrators perceive as the result of using an integrated academic and vocational approach to teaching and learning?

This research issue addressed again three factors which were instruction, curriculum materials and collegial collaboration. Several themes emerged from each factor. The themes that emerged relative to Factor I, the instruction factor, were adjusted instructional methods and combination instruction teaching.

Theme One: Adjusted Instructional Methods:

Adjusted instructional methods are characterized as taking courses in methods and materials which changed the teaching techniques used. Administrative comments seemed to reflect why the changes took place and placed a strong emphasis on preparation. Similar to teachers, they described

newly- found insights as contributing to the process. Again, perception of change was tied to specific real world behavioral changes. Some examples were:

> After we got the two faculties together and got comfortable with one another-we did that through teacher exchange and some joint faculty meetings and visiting each other's programs and going to conferences together and sitting down and networking together- after that the concern was more of "Now we're at this level. Now let's take it to a higher level." Just to keep everything moving along. It was like a blueprint. We had the first layer done, a checksheet, you might say. We checked it off, so now we're going for a higher level and trying to raise the ante a little bit from time to time. I saw that we were doing a lot more academic preparation for the students. They were more in tune with the different learning styles of students, so they approached things with different methods. They used cooperative learning in a few cases. We required the students to do reading every day. We required them to do a weekly writing assignment. We required the students to do math problems associated with their vocational programs every week. Those were the three main things (Administrator #1).

> We started out, of course, with a lot of staff development. Teachers, through staff development, have learned that all kids can learn. Most teachers have always taught the way they were taught and that was it. Through staff development and getting some experts in and sending teachers to workshops, those teachers have also come back and taught other teachers to expand on things-that there are other styles of learning as far as students' styles of learning. Also, there are other styles of teaching those. Many of our teachers have been involved in graduate level courses in reading across the curriculum, writing skills, improved computer skills for teachers so they can work with students. There are a lot of teachers who are somewhat frightful of computers. Different ways of raising students' expectations, trying to push them to do their best, not giving up on kids. Also, doing a lot with students-if you want to call it the lower level students. Students that need additional skill development and ways of working with those, such as different ways of working with the reluctant learner (Administrator #2).

> For the better. Academic teachers, in particular, are using a variety of teaching techniques. They're using different kinds of strategies in the classroom. Not that they didn't want to use them before, but I just don't think they knew those kinds of strategies. What we did initially was to bring in some classes-particularly from JMU-and have teachers take course work in methods and materials, those kinds of classes. I think that probably helped as much as anything. But the teaching strategies has really made a difference (Administrator #3).

Factor II: Curriculum Materials:

The theme that emerged for the curriculum materials factor was upgrading curriculum. The upgraded curriculum materials theme included removal of courses that may have been branded as low-level and adding on new requirements for all students. Of special note was the recognition that students, at all levels, need to stretch. The specific comments were:

> We've made some changes. Initially, I think, students and parents-a little bit of everyone-alot of times they don't like change. Some of the things we've done-we've done a lot of staff development trying to get teachers and so forth to open their eyes to change. One of the key things that the teachers and administrators are to raise students' expectations. In other words, we found-and teachers were concerned about-students graduating from high school with just a diploma. You've probably heard the term "Tippy-toe Curriculum" and Birdhouse Effects." Students, especially at the vocational level, the technical level, not having any correct path to follow. They don't have anything when they get out. No skills, no complete skills. They would take maybe one vocational course, just getting a diploma, getting those 21 credits with no skills to really take them in any path or direction. There was really none for them to take. A lot of colleges and so forth-they give students a direction. They have prerequisites. "If you want to enter our programs you need three or four foreign languages, you need the algebra two and calculus, etc." Primarily for the vocational-technical students they're not there. You didn't see it. That's

something that we've tried to build in our program. We're really working to require students to do more and take higher level math. If they're capable of taking higher level math, they take a higher level math. If they're capable of taking additional science, they take an additional science. One of the initial things we did, with the school board's backing and so forth, we raised the graduation requirements for students within this county. Instead of just having two math's and two sciences, requiring three. Also giving them some paths to follow, prerequisites, and working towards getting students to complete programs, within a program of study. The guidance counselors have a big part to play in it. We dropped general math. We dropped a lot of the general courses, the basic courses. We've added a lot of things. We're really into technology now (Administrator #2).

Yes, the materials have changed. We're showing more, doing more, or are aware more of the academic skills we're doing in the vocational classes. We've begun to align the academic classes with the vocational classes to reinforce one another. I know we've done some joint ventures between, for instance, our applied science, which is actually chemistry-ChemCom-and our occupational foods class, where they show where they take place in the kitchen. We've aligned a lot of our applied math in our building trades to show how the two are comparable. We've made major changes. I guess the biggest change we did vocationally is we took the old Tech. Ed., Industrial Arts, we took the woodworking component completely out of it and now teach Applied Physics One and Two. Also, we've gone into a class called Computer Controlled Technology, which is all robotics, hydraulics, pneumatics, and electronics, that are all interfaced with computers. That class-not so much the applied physics, the PT, but our Computer Controlled Technology, is a result of a community survey of business and industry. They said that's where we needed to go. It's amazing. We're finding now that there's a movement underway called Sideline that the business and industry are looking at putting together a career study for the workers in the area of manufacturing technology. What we did at the high school will probably be the basis for that program for adults. So that's some changes we've done (Administrator #1).

Factor Three: Collegial Collaboration

The major theme generated for Factor Three: collegial collaboration was respect for each discipline area collectively. This theme included areas such as: everyone in one building, previously separated, now working together for a common goal; teachers accepting this change; and problem-solving techniques. Comments reflected more of a willingness to cooperate with changes because people knew one another. Comments also suggested a willingness to try on new behaviors after learning new skills. The following is a sample of the administrators' responses:

> There's more. One reason is because before they were separate. Now we're under one roof. With the proximity they get the chance to see one another and it's not going to a foreign land. There's been interaction on a couple of occasions. Last August we took 45 of the faculty members from the high school-math, science, English, social studies, and vocational teachers to a three-day, self-directed conference. We had situations where business teachers were meeting social studies at the same time that the T&I folks were meeting with English, at the same time that the science was meeting with tech. ed., at the same time health careers and occupational foods were meeting with whatever I left out. Then they were rotated. As a result of that we came away with a list of strategies in the ways we could work together. That has been a building block for our new High schools That Work plan, we use that as a focus. It's amazing how that's helped (Administrator #1).

> We started out five years ago. After four years...this all began in the small school-where we had about 35 teachers and we were very close-knit. Everyone understood everyone else and everyone kind of bought into it, so to speak. It was very successful. I think it's beginning to become successful here at the consolidated school. Change doesn't occur overnight. You're not going to convince everyone. Now we're talking about-instead of a faculty of

> 35-85 faculty members. You're not going to get all of them to see the same thing. I think the majority level-we've had some in-service, we've had a retreat this past summer. The teachers overall have accepted and taken on a new grant continuing in the High Schools That Work grant. A lot of the teachers are excited about it. One of the age-old things that always pop up probably is time. Time is very valuable. A good teacher finds it hard to find time to go to workshops and do these different things. It's hard and it just takes dedication, persistence, and teachers willing to cooperate. I think the majority of them will (Administrator #2).

> As I said earlier, I think because they were initially put together in situations where they had to talk and discuss situations and problem solve. Those types of things, I think that just your basic teacher collaboration and improved teacher collaboration came from that. I think that they probably feel better about going to each other now and asking for guidance or suggestions or whatever. I think that probably communication is better (Administrator #3).

Research Issue Three

What is the perceived impact of the integrated academic and vocational approach to learning on grade point average and attendance of special needs students?

This research issue addressed two factors: grade point average and attendance. Several themes derived from this factor were dropout rate decrease, absentee rate decrease and students' becoming more involved in their education. A summary of the comments were:

> I think the attendance has improved. GPA-I really don't know, to be honest with you. I could look at the guidance records. I really can't tell. But in terms of my technical prep classes this year, I think at this point I only have one student that's failing. That's a major improvement (Teacher #1).

The voc-tech students come to school...as far as my class, their grades are basically the same because-like I said-those kids usually do good where they have hands-on; and PE gives them hands-on. You know they are usually stronger kids. They have been working. They either work on the farm, they work on cars, and they feel good about coming to PE. They are able to participate and usually do what's required of them (Teacher #11).

I think yes. The skills development kids that I have are in small groups and they've not been separated out before in middle school. Their attendance seems better. I realized very early on that I was losing them on Fridays, so I started reading aloud on Fridays. My attendance improved when I started reading aloud on Fridays because they knew they could come and listen and they didn't want to lose that chunk of the book. I think they really enjoy the computer lab. They don't feel so negative about writing if they're doing it on a computer keyboard instead of by hand (Teacher #13).

I think the special needs students have become more involved in what we are doing in the curriculum. The dropout rate has decreased. Scores have increased and grades, I think, have gone up. So I think the kids really like this. Its hands on and something they can identify with more practically (Teacher #3).

I don't have specific numbers with me right now. I know our enrollment for vocational classes-the special education students-has increased dramatically. I did have those figures at one time but I think it was as much as an increase of 50-60%. So it's helped with enrollment in particular classes. Grade points-I don't know that. We have a real low incidence of drop-out anyway. We don't really have a high dropout rate so that's not something that's a top priority with us (Administrator #3).

Yes. Off-hand, I'd have to go back and look at statistics, but overall we have seen a lot of improvement. The dropout rate is drastically decreased from what we had before. A lot of students see a need to graduate. Not only the dropout rate, absentee rate has gone down somewhat. Grades? Grades initially have not gone up because we're demanding more. Any time you demand more and raise expectations and require more of your students, initially you're not going to see grades. They drop off. But they're slowly starting to rise again. If you require more and expect more

there's not going to be an easy A or an easy B. They're not taking cream puff courses and jumping around like they were. So grades are important but it's the quality of the education that's important. Statistics are showing that we're having more, especially vocational students, completers than before. Students have taken more math credits by graduation time, they've taken more science credits by graduation time and English credits. All these have gone up from the '88-'89 school year and '94 (Administrator #2).

It definitely did not have a negative impact. The GPA part, it may be hard for me to tell you exactly on that. I've done some studies, not on those kids. I'm not sure. The reason why I'm saying that is we've had a change in policy since we did this in our initial first stage of the program. We now have a situation where a kid can miss 20 days of school, no questions asked. Before, we had a situation where we encouraged the kids to be there with any means possible, and if they missed more than 10 days we said, "You are in jeopardy of losing credit." I think it's a situation that wherever you draw the line, that's what the kid's going to adhere to (Administrator #1).

Research Issue Four

Do students perceive changes in instruction, curriculum materials, and collegial collaboration when they are involved in the integrated academic and vocational education approach to teaching and learning?

The eight special needs students who scored below the 25th percentile on the NAEP test were participants in the academic and vocational curriculum model since 1990. The group included seven males and one female. Grade point averages ranged from 1.33 to 2.36 on a 4.0 scale (see Appendix C). The attendance of the students ranged from three days absent to as many as 23

days absent in their senior year. The class rank of the students ranged from 110 to 199 out of 204 seniors in the class of 1994.

The students were interviewed in their school environment (vocational classroom or study hall classroom). During the course of one week, the students became familiar with the researcher and indicated that they looked forward to their personal interviews. Student responses were brief and to the point. Few elaborated on their initial response. Even so, the students, similar to teachers and administrators pinpointed perceived changes with the integrated curriculum.

This research issue addressed three factors: instruction, curriculum materials and collegial collaboration. Several themes emerged for each factor. The themes that emerged relative to the instruction factor were teachers taking more time with the students and relating math to academic and vocational subject areas.

Theme one: Teachers being there for the students. Having access to a teacher who is present and available to help with work, explain directions, and just care seemed to score big with the students. Although they did not elaborate, voice tone and gestures added much emphasis. Specific comments were:

> They take time to explain everything so I can understand it. This is very helpful and I think the other teachers should do the same thing (Student A).
>
> It helps a lot. They just help you, just help you out when you need help (Student C).

I think it's better (Student D).

It helps you to be able to work with other people and to understand more, I think. Yes, if I have a question she'll come over and sit with me by myself and explain it to me and help me understand it more, until I can finally understand it (Student E).

Some of the teaching techniques that have been most helpful to me include various reading styles and different learning styles (Student F).

Theme Two: Related math. Some of the comments were:

Probably math, because there's a lot of math related in this over here, more than there is anything else. In math they know we're over here and this class-that relates some to over here. If you don't understand it, the way they try to tell us to kind of relate it to over here. They try to help us understand it a little better (Student H).

English is linked to this vocational class. I think the linking of English and vocational is helpful (Student A).

Mostly math and auto body (Student C).

Math, more than any (Student D).

I'd say my math teacher really works more with the vocational than the English or science (Student E).

By linking vocational subjects with math, science, and English, I have been able to see the connection between them. I now realize that in whatever career I choose, I will need to have a good background in the basics (Student F).

Mostly math. It has made it easier for you to catch on (Student G).

Factor Two: Curriculum Materials

The theme that was most noticeable in this area was the use of different curriculum materials to make education fun. Again, students were able to grasp

what was being done by their teachers and to understand the reason for the change. The following are some of the comments:

> We used worksheets and stuff like that. The worksheets are helpful (Student A).
>
> The textbooks that we use are much more relevant to what is being taught. We had the opportunity to use more practical materials in addition to the textbook. The hands-on approach is much more fascinating (Student F).
>
> We really don't use textbooks in math. The teacher usually makes up sheets or gets maps. I like this better than textbooks (Student D).

Factor Three: Collegial Collaboration

This factor revealed that students are aware of teachers working together. Their mannerisms, gestures (smiles), and overall demeanor changed when discussing this area. They sat up and appeared more involved. The specific comments were:

> I think it is a good working relationship between my math teacher and vocational teacher (Student E).
>
> Both the vocational and academic teachers have been able to appreciate the other's curriculum. These teachers are now able to work cooperatively on various assignments (Student F).

Summary

The above themes seemed to permeate all or most of the transcripts. The transcripts reflected the following thoughts or insights:

- altered instructional methods
- personal/professional attitudes

- cross discipline teaching
- upgrading materials
- workplace relevance
- collegial respect
- adjusted instructional methods
- upgrading curriculum
- respect for each discipline area
- dropout rate decrease
- absentee rate decrease
- students more involved
- teachers being there for students
- related Math
- use of different curriculum materials
- students aware of teachers working together
- changes-integrating assignments, grammar, and vocabulary
- new textbooks and eliminating dumbed-down classes

The qualitative research approach was used to obtain data from 24 school students and employees in Virginia. The responses from interviews showed considerable consistency in perceptions across the three groups (teachers, administrators, and students). The teachers and administrators agreed that cooperative learning, teaching strategies and collaboration are very

important to enhance the learning of special needs students. The students also agreed and indicated that math was the subject most linked to their vocational classes. They also noticed the collaborative efforts of the academic and vocational teachers working together to reach a common goal. This pilot program seemed to have accomplished its goal as an initial effort to integrate academic and vocational education curricula. What was evident was a total unification of perspective about those changes efforts among the students, teachers and administrators.

Chapter 5

SUMMARY, IMPLICATIONS and RECOMMENDATIONS

This chapter contains a summary of the study, including the purpose of the study, research questions, and findings. In addition, discussion based on the findings of the study is contained in this chapter along with recommendations for further research.

This study attempted to describe the perceptions of teachers, administrators, and special needs students about an integrated academic and vocational curricular model of instruction set apart from conventional approaches to education. Additionally, it described what one school division encountered as it initiated such a project in classrooms that serve special needs students.

For years special needs students have appeared to fall farther behind their more advantaged peers. Great emphasis has been placed on advanced skills, problem solving, and reasoning (Means, Chelmer, & Knapp, 1991). Far too long this situation of low performance was blamed on these students. It was assumed that these students lacked the capability to perform complex academic tasks. Critics point out that we have decried special needs students' failure to demonstrate advanced skills while failing to provide them with instruction designed to instill those necessary skills (Cole & Griffin, 1987). According to Allington and McGill-Franzen (1989) and Oakes (1986), disadvantaged students received less instruction in higher-order skills than do advantaged students. In this study, a shift in orientation of teachers regarding special needs students and perceived changes resulting from the integration of vocational and academic education was revealed.

Purpose of the study

This study provided perceptions of school personnel and students regarding an integrated academic and vocational education approach to instruction. The specific research issues that were addressed in this study were:

- What changes in instruction, curriculum materials and collegial collaboration do teachers perceive as resulting from the integrated academic and vocational approach?
- What changes in instruction, curriculum materials and collegial collaboration do administrators perceive as resulting from the integrated academic and vocational approach?
- What is the impact of the integrated academic and vocational approach on grade point average and attendance of special needs students?
- Do students perceive changes in instruction, curriculum materials and collegial collaboration with the integrated academic and vocational approach?

Summary

Instruction, Curriculum and Collaboration

The research, though limited in scope, revealed some consistent patterns in expected areas given the nature of the study. There were also some unexpected perspectives shared as well. The perspectives support the proposed changes reflected in the literature that result from the implementation of integrated curricula.

Regardless of discipline, vocational, academic, or special education, teachers indicated that enhancement of cooperative learning, use of reading

strategies, and use of more diverse teaching, were the most frequent instructional changes that resulted from integrated academic and vocational curricula. Many teachers indicated that these instructional strategies were presented in workshops during the initial stages of the program making them easier to implement.

Cooperative learning as a teaching strategy reinforced students' abilities to work in groups, writing techniques, see the relevance of school work relating to business and industry, and transfer knowledge to the evolving workplace. Since reading is a basic competency necessary for success in the workplace, teachers were able to demonstrate how reading could be applied across the curriculum by structured overviews, anticipation guides, study guides and discussion groups. It was apparent teachers were meeting with success by diversifying teaching strategies. One of the benefits which was supported by this study was the curriculum upgrading which enhanced the basic skills of vocational students by integrating the curriculum.

Teachers across all disciplines had difficulty separating instruction and curriculum changes and often their comments overlapped. It is not uncommon for many teachers to view curriculum as a means of alignment, elimination, and creation for the entire school program. Administrators, on the other hand, quickly noted distinct curricular changes as they were overall managers of the integrated academic and vocational curricula. From their perspectives, they observed changes primarily as alignment or creation of courses across the entire school program. Specifically, they perceived changes in the integrating of content across many disciplines and the elimination of less challenging courses

and the creation of advanced courses. These changes were driven by teachers who recognize the need to reshape curriculum for more effective integration.

The final area of change, that of collaboration between academic and vocational teachers, fully supported the literature on benefits to integrating academic and vocational education. Teachers and administrators revealed the importance of collaboration and cooperation of the entire faculty to implement such a broad range of curricular change. Faculty initially participated in school wide in-services focusing on skills for integration of curriculum that also developed a sense of teamwork across disciplines toward a common goal. Both supported close scrutiny of curriculum, content, instructional strategies and allowed teachers an opportunity to understand each other's disciplines and begin to integrate concepts across areas. Grubb et al., (1991) noted that this model four of instruction placed a premium on cooperation among academic and vocational teachers.

It was evident from perceptions of teachers and administrators involved in this study that positive instruction, curriculum, and collaborative changes had taken place and were maintained over that time period.

The major benefits for students included integrated academic and vocational curricular approaches, increased attendance and GPA. Integration efforts have shifted to a new conception of vocational preparation for college and industry which will enhance the academic content to prepare special needs students for the workforce (Grubb et al., 1991). Teachers' perceptions of grades differ by discipline with vocational teachers feeling that all students do well in their classes and academic teachers expressed that grades would increase gradually over time. Administrators observed that the curricular change

acknowledged increased requirements and raised standards of performance and that it would take longer to observe present results. The students all graduated with a 2.0 average. Teachers and administrators observed attendance of students over the six year period and again had mixed results. Administrators and teachers indicated that during this time a new attendance policy was enacted which allows a students to be absent from school twenty days before a reprimand is given. Administrators appeared to be more aware of overall students' attendance than teachers and revealed no significant changes. Overall results of the study regarding GPA and attendance were inconclusive.

The central themes of curriculum materials include the elimination and/or creation of courses and the alignment of courses. All three administrators agreed that this was the major change in the curriculum materials. This was a guiding force for the special needs students. According to Grubb (1991) students learn better when their courses relate and allow the students time to build on acquired knowledge. There was indication that this was beginning to happen at the school involved in this study.

Bottoms, Presson and Johnson (1992) reported that this school implemented very successful staff development that was carefully designed to equip the teachers with the tools necessary to integrate academic and vocational education. The academic and vocational teachers attended retreats to become aware of each other's courses and to build strong connections. This enabled the teachers to see the big picture of what changing attitudes, curricula, and instructional practices could do for all students involved.

Beck (1991) indicated collaboration will not only make what is learned more useful for all students, but will also increase what is learned. Therefore,

students will retain more. By collaborating, academic and vocational teachers combine knowledge, ability and assets of several individuals and/or agencies in a common effort to provide a successful vocational education for a special learner (Greene et al., 1989).

According to Schmidt (1992) effective collaborative efforts included academic and vocational teachers observing each other and using each others textbooks. This appears to be precisely the goal and practice of some personnel in the particular school setting of this study. These efforts can ensure special populations a fair chance in the workplace (Wircenski & West, 1990).

Comments by the administrators on collaboration centered around cooperation of the entire staff to implement integrated academic and vocational education approach to learning. Responses were similar to what related research had shown. According to Bottoms, Presson, and Johnson (1992), teachers attitudes changed with collaboration and teachers discovered they had a common purpose to supply the tools of lifelong learning to the students. Collaboration of the faculty was the most important factor in implementing the pilot program at this school.

All of the teachers were enthusiastic about the pilot program and were eager to learn, and enthusiastic and willing to incorporate integration in their curriculum. Their behaviors were consistent with Hazelhorn and Lombard (1991) who conferred that collaboration results in less conflict and shared resources are more expanded. According to Asselin (1993), collaboration is a relationship based on sharing where two parties not necessarily having a meaningful relationship find a common denominator which is translated into a shared commitment. This faculty was excited to learn and share with each other.

Grade Point Average and Attendance

Teachers indicated that an improvement in grades of the special needs students would require more time because of increased demands through integration efforts. Teachers were more enthusiastic about the improvement of attendance since implementing this program at this high school. The vocational and academic teachers thought that attendance had increased in spite of a more lenient attendance policy adopted by the school. The comment was made that some of the students abused the policy and used the total number of days allowed to be absent. While the vocational and academic administrators agreed that there was an increase in attendance, the special education administrator indicated there was no significant change in attendance The vocational and academic administrators agreed and related their desire to continue to collect data to substantiate this claim. Bottoms, Presson and Johnson (1992) contended that this high school made significant gains in student achievement based on the NAEP test by replacing most low level courses with ones reserved for traditional college bound students, which, in turn, decreased the failure and dropout rates.

Data had not been collected to address issues related to attendance or the policy changes during this time frame. There was not enough data on the teachers' and administrators' perceptions of grades and attendance to make any other meaningful conclusions.

Students Perceptions

The special needs students agreed that linking course assignments in academic and vocational classes was a positive change in their instruction. Although the students measured in the lower 25th percentile of the NAEP test,

they still recognized that there were changes being made at this school. The most important theme that emerged from the special needs students' responses was how the instruction was consistent throughout their classes, both academic and vocational.

Students, responses to items were brief and somewhat limited because of the location of the interview (auto body class). Another limitation was that the students could have been distracted by the activities occurring in the vocational classroom during the interview. All of the students involved in this study agreed that curricular materials and their relevance to the real world was a positive change. Students also agreed the teachers' working together was positive. This was of major importance to the students because traditionally the disciplines remained separate. Means, Chelmer, and Knapp (1991) suggested that special needs students learn best by doing. Therefore, the integration of academic and vocational education can help these students achieve at greater potential than before.

Only eight special needs students were identified as long term participants in the integrated academic and vocational program. Unfortunately, student responses to items were too brief to draw individual conclusions. However, responses of the entire group did reveal some significant information from the student's, perspectives. Students recognized positive changes in instruction, especially in consistency across disciplines. Math stood out from the rest of the courses as the major class which linked both academic and vocational curriculum. Students also recognized and appreciated collaborative efforts of their teachers.

Implications

The results of this study revealed that teachers, administrators and students involved in the integrated academic and vocational education model perceived positive changes in collaboration, instruction, and curriculum. A closer examination of the results provided certain implications for schools undergoing restructuring. As in any major educational reform teachers must be full partners in the process. Teachers indicated that collaboration, teacher networks and sharing information were positive aspects of the process. Professional development programs in higher education can provide knowledge and skills of this model across disciplines to enhance instruction and role model collaborative teaching and networking. We can't expect teachers to be active participants in restructuring, unless they are provided with the skills through staff development.

Academic and vocational educators collaboration was most meaningful. Collaborative efforts incorporating new curriculum leads to a smoother transition for the faculty. Integrated academic and vocational programs are neither a packaged curriculum nor a formula for teaching, instead it is a new way of teaching and learning. This model changes what is taught, how students are taught and how students and teachers relate to each other.

Issues Impinging Upon Research

Participants in this study indicated that integration of academic and vocational education can bring all personnel together for the improvement of all students' learning. This study had a lack of probing questions added to the instrument which could have aided in the process of formulating the themes. A closer examination of all students and the impact on their grades, achievement

and attendance needs to be done. Special needs students may become more familiar with the model of instruction as the teachers and administrators become comfortable with the new concept. Future research focusing upon the effects of this model on special needs students would provide valuable information and insight into the students' development process.

The qualitative design of this study proved useful in examing the perceptions of teachers, administrators and students. However, the participants were a small group of school personnel and students from a rural high school in Virginia. Therefore, results cannot be generalized beyond the population under study. It would be insightful to apply this research design with other high schools who are integrating academic and vocational education. A study which focused on a larger, more diverse student population might provide a richer description of perceptions using this model.

Recommendations for further research

1. Conduct further in-depth case studies on the nature of collegiality among academic and vocational teachers in school settings.
2. Additional studies about other curricular models that work to integrate academic and vocational education should be encouraged.
3. Achievement test scores should be examined against grade point average and attendance of special needs students to access additional outcomes on a longitudinal basis.
4. Data should be collected over a longer period of time to evaluate the impact of an integrated academic and vocational approach to learning.

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Appendix A
Interview Schedules

Teacher Interview Schedule

Special needs students are: Rockbridge High School's definition

I. PERCEPTIONS

1. Describe the integrated academic and vocational education program at your school.
2. Initially, what were your concerns regarding integrated academic and vocational education?
3. Have they been replaced by new concerns? If so, what are they?
4. Describe changes made in your in teaching strategies since implementation.
5. How have these changes in teaching strategies impacted upon the gpa and attendance of special needs students?
6. Describe changes you have observed in the curriculum since implementation. (course content, materials and experience)
7. How have these changes in curriculum impacted upon the gpa and attendance of special needs students?
8. Describe changes in how teachers interact or collaborate using this approach.
9. Describe the impact of these changes in collaboration on the gpa and attendance of special needs students?

II. DEMOGRAPHICS

1. How many years have you been a
   _____ yrs teacher
   _____ yrs administrator

2. What subject matter did you teach?

_____ Math	_____ Special Education
_____ English	_____ Science
_____ Vocational Education	_____ Other

3. What was the major for each degree you hold?

_____AA	_____HS/GED
_____NONE	_____BS/BA
_____MS/MA	_____Ed.S/CAGS
_____Ed.D/Ph.D.	

Administrator Interview Schedule

I. PERCEPTIONS

1. Describe the integrated academic and vocational education program at your school.
2. Initially, what were your concerns regarding integrated academic and vocational education.
3. Have they been replaced by new concerns? If so, what are they?
4. Describe changes made by your instructors in teaching strategies since implementation.
5. How have these changes in teaching strategies impacted upon the gpa and attendance of special needs students?
6. Describe changes you have observed in the curriculum since implementation. (course content, materials and experience)
7. How have these changes in curriculum impacted upon the gpa and attendance of special needs students?
8. Describe changes in how teachers interact or collaborate using this approach?
9. Describe the impact of these changes in collaboration on the gpa and attendance of special needs students?

II. DEMOGRAPHICS

1. How many years have you been a
   _____ yrs teacher
   _____ yrs administrator

2. What subject matter do you teach?

_____ Math	_____ Special Education
_____ English	_____ Science
_____ Vocational Education	_____ Other

3. What was the major for each degree you hold?

_____AA_____HS/GED
_____NONE_____BS/BA
_____MS/MA_____Ed.S/CAGS
_____Ed.D/Ph.D.

Student Interview Schedule

You have been involved in a new, exciting program in your school in which your English, math or science classes have been linked with vocational subjects.

I'd like to discuss with you some of your thoughts about teaching materials and strategies used in these classrooms.

1. Describe which vocational subject(s) and which of English, math or science were linked.

2. Describe how the textbooks or other study materials were used in your classrooms. (video, slides, & etc.)

3. In what ways were the materials helpful?

4. Now let's think about your teachers. Describe specific teaching techniques or strategies used by your teachers that motivated or helped you to learn?

5. Describe how these strategies were helpful.

6. Describe the interaction between the vocational and academic teachers.

7. Describe how this was helpful?

Appendix B
Ethics Protocol

Ethics Protocol

Hi, my name is Joy Poindexter. Thank you for your willingness to participate in this research study. Your participation is very much appreciated. Before we start the interview, I would like to assure you that as a participant in this study you have certain rights.

*Your participation in this research is entirely voluntary.
*You are free to refuse to answer any question at any time.
*You are free to withdraw from the interview at any time.
*This interview will be kept confidential and only made available to members of my committee. (anonymously)
*Excerpts of this research will be part of the final research study, but, your name will not be used.

I would be grateful if you would sign this form to show that I have read its content to you.

_____

(Signed)

_____

(Dated)

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Informed Consent for Participants of Investigative Projects
Teacher/Administrator Permission

Title of Project: Perceptions of Special Needs Students, teachers and Administrators Regarding An Integrated Academic and Vocational Model of Instruction

Principal Investigator: Joy Poindexter

I. THE PURPOSE OF THIS RESEARCH/PROJECT

You are invited to participate in a study about the perceptions of students, teachers and administrators regarding integrating academic and vocational education at Rockbridge County High School. This study involves questions asked of students, teachers and administrators on the subject.

II. PROCEDURES

The procedures to be used in this research are for teachers/administrators 45 minutes of their time to answer nine questions about this model at Rockbridge County High School. There are no risks involved. Teachers/Administrators names will not be used. (Anonymous)

III. BENEFITS OF THIS PROJECT

Your participation in the project will provide valuable information that is helpful to Rockbridge County High School and the investigator Joy Poindexter.

IV. EXTENT OF ANONYMITY AND CONFIDENTIALITY

The results of this study will be kept strictly confidential. At no time will the researcher release the results of the study to anyone other than individuals working on the project without your written consent. The information you provide will have your name removed and only a subject number will identify you during the analyses and any written reports of the research.

The interview will be taped with a recorder and the tapes will be reviewed by Joy Poindexter and will be erased after the complete analysis has occurred. (Three weeks)

V. COMPENSATION

For your participation in this project you will receive a Certificate of Appreciation for your time.

VI. FREEDOM TO WITHDRAW

You are free to withdraw from this study at any time.

VII. APPROVAL OF RESEARCH

This research project has been approved, as required, by the Institutional Review Board for projects involving human subjects at Virginia Polytechnic Institute and State University, by the Department of Vocational and Technical Education and Mr. John Reynolds, Principal of Rockbridge County High School.

tear off and return to Rockbridge County High School by 5/20/94

VII. SUBJECTS PERMISSION

I have read and understand the informed consent and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent for participation in this project.

YES----------

NO----------

Should I have any questions bout this research or its conduct, I will contact:

Joy Poindexter (703) 981-1461
Investigator

Dr. Susan Asselin (703_231-9291
Faculty Advisor

Ernest R. Stout (703) 231-9359
Chair, IRB Research Division

Appendix C

Students Grades

Table 1

Description of Special Needs Students

Student A (Male)

Subject	9TH	10TH	11TH	12TH
Math	C	D	D-	
Science		D	C-	
English	C	C	D+	D+
Vocational	A		B-	B-
Days Absent	11	14	17	22
Gpa				1.86
Rank				163

Table 1 (Continued)

Description of Special Needs Students

Student B (Male)

Subject	9TH	10TH	11TH	12TH
Math	C	B	D+	
Science	C	C		
English	D	D	C	C-
Vocational		C	C+	C-
Days Absent	7	8	10	12
Gpa				1.59
Rank				186

Table 1 (Continued)

Description of Special Needs Students

Student C (Male)

Subject	9TH	10TH	11TH	12TH
Math	D	D	D-	
Science	B	D		
English	D	C	C-	C-
Vocational		D	C-/C	C-
Days Absent	14	13	19	14
Gpa				1.62
Rank				182

Table 1 (Continued)

Description of Special Needs Students

Student D (Male)

Subject	9TH	10TH	11TH	12TH
Math	D	C	F	D
Science	D	D		
English	C	D	C-	C+
Vocational		D	D-	A-
Days Absent	1	6	8	6
Gpa				1.40
Rank				197

Table 1 (Continued)

Description of Special Needs Students

Student E (Male)

Subject	9TH	10TH	11TH	12TH
Math	C	D	D	
Science	C	D		
English	D	D	D	D+
Vocational			A-/D-	A/B
Days Absent	5	7	2	8
Gpa				1.97
Rank				155

Table 1 (Continued)

Description of Special Needs Students

Student F (Female)

Subject	9TH	10TH	11TH	12TH
Math	D	C	B-	
Science	D		C+	
English	B	C	B-	B-
Vocational	C	D		C+
Days Absent	15	18	16	23
Gpa				2.36
Rank				110

Table 1 (Continued)

Description of Special Needs Students

Student G (Male)

Subject	9TH	10TH	11TH	12TH
Math	C	C	C	
Science	C	C		
English	C	C	C-	C
Vocational		D	B	A-/C
Days Absent	6	5	3	8
Gpa				2.36
Rank				110

Table 1 (Continued)

Description of Special Needs Students

Student H (Male)

Subject	9TH	10TH	11TH	12TH
Math	D	D	D+	
Science	F	D	C-	
English	D	D	C	
Vocational	B	B	C-	C
Days Absent	1	8	4	3
Gpa				1.33
Rank				199

361 Winston Avenue
Blacksburg, VA 24060
May, 13, 1994

Dear Parent,

I am currently a doctoral candidate at Virginia Polytechnic Institute and State University, Blacksburg, Virginia. I am interested in studying the perceptions and opinions of your son/daughter's regarding the integrated academic and vocational education program he/she participated in. Once completed, the results will be shared with you and other parents. It is my desire to present the information in a manner which will be useful to schools as they assist students in the educational process.

In an effort to gather information needed for the study, I am asking your permission for your son/daughter to complete a 15 minute interview on the program. The initial responses will be held in the strictest of confidence and no names will be used. I am requesting that your child participate because his/her opinions are important and essential to the results of this research. If you would like additional information about the study please call me (collect) after 5pm at (703) 552-6327.

Thank you for your time and consideration.

Sincerely,

Joy Poindexter

361 Winston Avenue
Blacksburg, VA 24060
May, 13, 1994

Mr. John Reynolds, Principal
Rockbridge County Public School
Route 7 Box 40A
Lexington, VA 24450

Dear Mr. Reynolds.

I am currently a doctoral candidate majoring in Vocational & Technical Education at Virginia Polytechnic Institute and State University. I am requesting permission to conduct a study at Rockbridge High school.

The purpose of the study is to examine the perceptions and opinions of eight students, seventeen teachers and three administrators who participated in an integrated academic and vocational education program. In order to conduct the study I need your permission and assistance in the following ways:
1) permission to send a request for participation in the study to the parents of the selected twelfth grade students.
2) a letter from the school acknowledging the school's approval of the study, a copy of this letter will be attached to the parent participation request.
3) permission to review the academic records of the specific students.

Enclosed is additional information that may be useful in determining approval for the study. The enclosed items are: the abstract of the study, a copy of the letter requesting parental approval, and copies of the teacher, administrator and student surveys.

Your cooperation and consideration will be greatly appreciated. Thank you so much for your attention to this request.

Sincerely,

Joy Poindexter

VITA
Joy Delene Poindexter

ADDRESS: P. O. Box 151
St. Stephens Church, Virginia 23148

EDUCATION: 1990 -B. S. Health Information Management, Medical College of Virginia/ Virginia Commonwealth University, Richmond, Virginia

1991 -M. S. Vocational Technical Education, Virginia Tech, Blacksburg, Virginia

1996 -Ed. D Vocational Technical Education, Virginia Tech, Blacksburg, Virginia

EXPERIENCE: Graduate Research Assistant, Virginia Tech 1991-1993

Teacher/Counselor, Roanoke City Public Schools 1993-1994

Trainer and Medical Records Director, Assist You, Inc. Richmond, VA !994-1995

Director of Upward Bound, St. Paul's College, Lawrenceville, VA 1995-Present
Part-time Instructor, St. Paul's College, Lawrenceville, VA 1995-Present

PROFESSIONAL AFFILIATIONS
American Vocational Association
Omicron Tau Theta
Phi Delta Kappa
Delta Sigma Theta, Inc.
National Association of Vocational Special Needs Personnel
Virginia Educational Opportunity Program Personnel
Virginia Commonwealth Chapter of 100 Black Women

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