INTERIM FINANCE COMMITTEE'S

SUBCOMMITTEE

ON

OCCUPATIONAL EDUCATION

Bulletin No. 89-10

INTERIM FINANCE COMMITTEE
OF THE
LEGISLATIVE COUNSEL BUREAU
STATE OF NEVADA

OCTOBER 1988

INTERIM FINANCE COMMITTEE'S SUBCOMMITTEE ON OCCUPATIONAL EDUCATION

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LEGISLATIVE COUNSEL BUREAU

STATE OF NEVADA

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SENATE BILL 165
(CHAPTER 743, STATUTES OF NEVADA, 1987)

Senate Bill No. 165--Committee on Finance

CHAPTER....743

AN ACT relating to occupational education; requiring the Interim Finance Committee to conduct an interim study to determine appropriate methods of funding occupational education in Nevada; making an appropriation; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. 1. The Interim Finance Committee shall conduct an interim study to determine appropriate methods of funding occupational education in Nevada.

2. The Interim Finance Committee shall appoint a study subcommittee consisting of nine members to include:

(a) Three members of the Interim Finance Committee who were members of the Assembly of the 64th Session;

(b) Three members of the Interim Finance Committee who were members of the Senate of the 64th Session; and

(c) Three persons who are experts in occupational education or possess knowledge of the system of public instruction in Nevada, and who were not members of the Assembly or Senate of the 64th Session.

3. The chairman of the Interim Finance Committee shall designate one of the members as chairman of the subcommittee.

4. The Director of the Legislative Counsel Bureau shall provide the necessary professional staff and a secretary for the subcommittee.

5. The members of the subcommittee who are members of the Interim Finance Committee are entitled to receive a salary for each day or portion of a day of attendance at a meeting of the subcommittee in an amount equal to the salary established for the members of the Legislative Commission and the travel expenses and per diem allowance provided by law for members of the standing committees of the Legislature. The members of the subcommittee who are not members of the Interim Finance Committee are entitled to receive the travel expenses and per diem allowance provided by law for state officers and employees generally.

6. The subcommittee may hold public hearings at such times and places as it deems necessary to afford the general public and representatives of governmental agencies and of organizations interested in occupational education an opportunity to present relevant information and recommendations.

7. The subcommittee may accept and use any gifts and grants which it receives to further its work.

8. The subcommittee shall submit to the Interim Finance Committee a report of its findings and recommendations for legislation before the commencement of the 65th Session of the Legislature.

Sec. 2. 1. There is hereby appropriated from the state general fund to the Interim Finance Committee the sum of $16,000 for the payment of the salaries and travel and per diem expenses of the subcommittee pursuant to this act.

2. Any remaining balance of the appropriation made by subsection 1 must not be committed for expenditure after December 31, 1988, and reverts to the state general fund as soon as all payments of money committed have been made.

Sec. 3. This act expires by limitation on January 1, 1989.

REPORT OF THE INTERIM FINANCE COMMITTEE
TO THE MEMBERS OF THE
65TH SESSION OF THE NEVADA LEGISLATURE

This report is submitted in compliance with Senate Bill 165 of the 64th session of the Nevada legislature which directs the interim finance committee to study and determine appropriate methods of funding occupational education in Nevada.

As specified in S.B. 165, a nine-member subcommittee to conduct this study was appointed by the interim finance committee. These members included:

Assemblyman John E. Jeffrey, Chairman
Senator Dean A. Rhoads, Vice Chairman
Senator Donald R. Mello
Senator William J. Raggio
Assemblyman Jan Evans
Assemblyman David E. Humke
Ward Gubler, Clark County School District
Wayne E. Thomsen, Ph.D., Clark County School District
Richard Wright, Washoe County School District

Legislative counsel bureau staff services for the subcommittee were provided by Robert E. Erickson of the research division (lead staff), Steve Coburn of the legal division (legal counsel) and Debby Richards of the research division (subcommittee secretary).

In this report, the subcommittee has attempted to present its findings and recommendations in a concise form. Only that information which bears directly upon the scope of the study and the subcommittee's recommendations is included. All other supporting documents, including minutes, staff reports and other research materials, are available and on file with the research library of the legislative counsel bureau.

Our most sincere thanks are extended to all of those persons who assisted the subcommittee and participated in its meetings. At least a few of the participants should be mentioned for their assistance throughout the study process. These persons include Superintendent of Public Instruction Eugene T. Paslov and his staff--particularly Marcia R. Bandera, deputy superintendent for instructional research and evaluative services, and Bill Trabert, director of occupational and continuing education. Others who should be recognized include Nevada State Senator Erik Beyer, who

serves as a member and second vice president of the Nevada Council on Occupational Education, and June M. Herrmann, member of the state board of education and state board for occupational education, and chairperson of the state board of education's task force on occupational education.

This report is transmitted to the members of the 1989 legislature for their consideration and appropriate action.

Respectfully submitted,

Interim Finance Committee
Legislative Counsel Bureau
State of Nevada

Carson City, Nevada
October 1988

* *

INTERIM FINANCE COMMITTEE

Assemblyman Marvin M. Sedway, Chairman

Senator William J. Raggio
Senator Nicholas J. Horn
Senator Lawrence E. Jacobsen
Senator Donald R. Mello
Senator Raymond D. Rawson
Senator Dean A. Rhoads

Assemblyman Morse Arberry, Jr.
Assemblyman Joseph E. Dini, Jr.
Assemblyman Jan Evans
Assemblyman Virgil M. Getto
Assemblyman David E. Humke
Assemblyman John E. Jeffrey
Assemblyman John W. Marvel
Assemblyman Robert E. Price
Assemblyman James W. Schofield
Assemblyman James J. Spinello
Assemblyman Courtenay C. Swain
Assemblyman Terry Tebbs

SUMMARY OF RECOMMENDATIONS

The subcommittee of the interim finance committee which studied funding for occupational education recommends for the consideration of the 65th session of the Nevada legislature that:

1. **The state board of education be directed to establish a program in "home and career skills" for all students in grades 7 or 8, and a legislative appropriation be made for related instructional equipment and materials in affected classrooms throughout the state. The appropriation needed, which should not be included in salary negotiations for teachers, is a one-time amount of $1,461,000. (BDR 34-271)**

2. **The state board of education be directed to establish a program in "introduction to technology" for all students in grades 7 or 8, and a legislative appropriation be made for related instructional equipment and materials in affected classrooms throughout the state. The appropriation needed, which should not be included in salary negotiations for teachers, is a one-time amount of $720,000. (BDR 34-270)**

3. **In recognition of the additional costs associated with occupational education programs in grades 9 through 12, additional money should be appropriated for use by local school districts specifically for occupational education programs, including enhancement of these programs through the inclusion of student competencies--introducing students to occupations in grades 9 and 10, and improving job-specific programs in grades 10 through 12. The state board of education also should be directed to develop a course of study for grades 9 through 12. The full additional funding needed ($8,792,559 per year, currently) should be appropriated in the future as money becomes available. Full funding should be phased in over time, and for the 1989-1990 and 1990-1991 fiscal years, it is recommended that the legislature appropriate 25 percent of the identified excess costs ($2,198,139.75) for each of these years. Appropriations of this type, which should not be included in salary negotiations for teachers, will be required on an ongoing basis.**

The state board of education should recommend the allocation of a base amount to each school district, and the remainder should be distributed based upon the number of students in each district who are enrolled as full-time students in occupational education on the last day of the first month of each school year. Each school district should justify its use of the money. (BDR 34-269)

4. The state board of education be directed to establish a course of study for a comprehensive guidance and counseling program in grades 7 through 12 of Nevada's public schools, including the Nevada Career Information System, which would be phased in as funding becomes available. (BDR 34-268)

5. The state board of education be urged to require that all students have an opportunity to participate in an occupational education youth organization. (BDR R-266)

6. The University of Nevada System board of regents be urged to review current programs for preparing occupational education teachers and to increase the availability of these programs. (BDR R-265)

7. Local school boards in Nevada be urged to provide the resources needed to develop special education services within occupational education programs. (BDR R-264)

8. Local school districts in Nevada be urged to implement the state board of education's policy (Nevada Administrative Code 389.672, "Academic credit for occupational courses of study," [Appendix C]) on awarding academic credit for an occupational course(s) when it has been substantiated that the curriculum for the occupational course of study includes the curriculum of the academic course of study. No more than two credits in English, one credit in mathematics, and/or one credit in science may be earned for graduation through this alternative route.

   The University of Nevada System (UNS) board of regents also should be urged to accept an occupational course(s), which has been approved for academic credit, toward the admission requirements to the UNS universities and community colleges. (BDR R-288)

REPORT TO THE 65TH SESSION OF THE NEVADA LEGISLATURE BY THE INTERIM FINANCE COMMITTEE'S SUBCOMMITTEE ON OCCUPATIONAL EDUCATION TO DETERMINE APPROPRIATE METHODS OF FUNDING OCCUPATIONAL EDUCATION IN NEVADA

I. INTRODUCTION

In 1987, the 64th session of the Nevada legislature adopted Senate Bill 165 which directed the interim finance committee "to conduct an interim study to determine appropriate methods of funding occupational education in Nevada, making an appropriation, and providing other matters properly relating thereto." The interim finance committee appointed a subcommittee to conduct the study. The subcommittee included three members of the senate, three members of the assembly and three persons who were experts in occupational education or who possessed knowledge of the system of public instruction in Nevada.

The subcommittee held the following meetings:

Date	Location	Primary Purpose
October 22, 1987	Las Vegas	To receive background information provided by Nevada's state department of education.
December 12, 1987	Reno	To receive information regarding the Nation's and Nevada's work force related to the technologies of the third economic era.
January 28, 1988	North Las Vegas	To receive information on model occupational education programs operating in New York State and a state department of education report on the financing of occupational education by other states.

March 18, 1988	Reno	To receive the report "Funding Occupational Education In Nevada" prepared by the state department of education.
May 3, 1988	Elko	To receive a report of the state board of education's task force on occupational education and its (draft) proposed "course of study" for occupational education.
June 1, 1988	Carson City	To conduct a work session and adopt final recommendations.

The subcommittee received testimony from a variety of sources, including individuals representing business and industry; the state board of education's committee on excellence in occupational education, which is composed solely of members of business and industry; representatives of local chambers of commerce; and the board's council on occupational education. In addition, testimony was received from individual students and teachers, vocational education youth organization representatives and representatives of the Nevada Vocational Association. Members of the Nevada School Administrators' Association, Nevada School Boards of Trustees, the Nevada School Superintendents' Association, the Nevada State Education Association and representatives of the University of Nevada System's colleges of education and community colleges also testified. The state department of education provided extensive background material which greatly aided the subcommittee in its deliberations. The subcommittee is grateful to everyone who testified and provided written materials for its consideration.

II. BACKGROUND

Occupational education was conceived and developed in response to the needs of an industrial society. Today, occupational education exists in an "information" society. The subcommittee heard testimony that occupational education has a very important role in the Nevada education system to

respond to the major changes that are transforming this society into a new age. They include:

- The shift in jobs from manufacturing to service and information;
- The necessity to compete in a global economy;
- Workers' needs for adaptable, transferable skills;
- The need for technological literacy;
- The effect of demographic and social changes on the family; and
- The need to address equity for all groups.

Although public elementary and secondary schools continue to emphasize preparing students for college, it was pointed out that 24.1 percent of Nevada's 9th graders in 1987 will not finish high school, and some 85 percent will not obtain a college degree. Despite these facts, enrollment in traditional occupational education courses in Nevada recently has been declining--34 percent decrease in grades 7 and 8 and 18 percent decrease in grades 9 through 12. The subcommittee heard testimony about the:

- Historical view that occupational education serves only the "smokestack" industries which no longer comprise America's economic base;
- Lack of support from business and industry, educators, policymakers, and, most importantly, parents and students;
- Lack of support through inadequate state and local funding to maintain quality programs; and
- The traditional image that occupational education is "shop" for boys and "home economics" for girls and exists solely for students who lack basic academic skills and motivation.

Yet, there was testimony that a restructured program of occupational education has never been more critically needed to assure the Nation's and Nevada's economic strengths.

The following expanded definition and improved purpose of the program was given to the subcommittee:

> The purpose of occupational education is "education"--the application of math, science and communication skills to prepare students for the global economic era--the technical future--the new age, in which our Nation is presently immersed.

Testimony indicated that occupational education is both a body of knowledge and an educational process, and that it responds to diverse learning styles and needs. Occupational education teaches analytical skills and problem solving, its instruction is individualized, and learning is cooperative--students help each other and learn from each other. Students are motivated to learn since activities related to employment and the real world of work are interesting and relevant to their lives.

While occupational education in Nevada was presented as being first and foremost "education"--the acquisition of knowledge, expansion of the mind and the improved ability to think--occupational education also was presented as being preparation for employment and for advanced education through post-secondary education at the community college and the university.

The subcommittee heard testimony that occupational education addresses those components while serving all of Nevada's students:

- Application of academics through "hands-on" instructional methodology;
- Direction and guidance to prepare for career changes and lifelong learning; and
- Instruction of skills needed for advanced education, employment and training.

The subcommittee also heard testimony from both the private and public sectors, each requesting assistance and/or improvement to the occupational education system, courses and programs:

- Business and industry which expressed concern about the lack of preparation for work among the Nation's high school graduates;
- Educators who seek support to develop and renew methods of instruction and programs which would motivate all students--including students who are at risk of dropping out of school;

- Parents who list career exploration, career planning and occupational education needs at the top of their "wish lists" for their children's education; and

- Students who want to learn in school those things they can use in their lives.

Some of the major premises received by the subcommittee were presented by:

- Doctor Dennis A. Swyt, deputy director, Center for Manufacturing of the United States National Bureau of Standards;

- Doctor Richard D. Jones, bureau chief of Occupational Education Program Development, New York State Education Department;

- Doctor Barton W. Welsh, superintendent, Lyon County [Nevada] School District; and

- Representatives of the state board of education's task force for occupational education.

Doctor Swyt summed up his deep concern about the strategic role education and technical training must play if our Nation and Nevada are to compete in a global economy:

> We are at the point of a radical departure in the nature of the technology on a large-scale systems view. Basically, flexible automation is strategic to technology. And I don't care whether you're doing manufacturing, mining, construction, insurance services, or educational services, ultimately the technology that is going to allow you to produce the most modern features at the highest quality and the lowest cost, delivering them just when you need to deliver them, is essential to keeping the United States on the competitive edge in a global economy. In fact, I'd make a stronger statement than that. I think that's the only way you can possibly do it.
>
> In terms of manufacturing or industry, automated manufacturing is the strategic basis for global competition. If we as a society are actually going to try to compete and sell goods and/or knowledge in the marketplace, automation, high quality, low cost and immediate delivery is the only way we can do it.

In terms of people, technically trained and educated people are the strategic workers of this third post-industrial era. The first era was agriculture, the second was industry, the third has no name. Call it what you will. Call it the information society; the service economy; the knowledge society. Whatever it is, these are the people who are going to produce your wealth. That's where the health and well-being of the Nation and society resides, i.e., in the technical trained and educated people of this Nation and of this state.

Anyway, in order to prepare for that future, I think it's incumbent on us as a society to deal with education because education is the bottom line. Because the educational system, from my point of view, is the strategic resource that must be mobilized to deal with this whole reality.

Doctor Jones, presented to the subcommittee an overview of New York State's effort to restructure occupational education programs to better serve students preparing to enter work in a post-industrial age. Doctor Jones stated that the Nation is facing major changes which are occurring in:

1. Society -

    a. Demographics (e.g., an increase in the older population);

    b. Expectations (e.g., many women choose a career as a priority over a family and marriage); and

    c. Extended/multiple careers (people must be prepared to change their career several times).

2. The workplace -

    a. Students must be prepared for new applications of technology which are not anticipated at this time; and

    b. Students must understand that the quality of their work has a direct impact on the success of the entire organization which employs them.

According to Dr. Jones, "A viable academic and occupational program provides the best education possible to all students so they are prepared to respond to the accelerating changes

in society and the workplace." A program of this type, he said, "must include (1) appropriate skills, and (2) proper delivery." He described New York's total occupational education system which includes two programs which must be completed by all students by the end of the 8th grade. These programs incorporate "related technology skills," including:

1. Basics (English and Mathematics) -

    a. Data manipulation;

    b. Decisionmaking/problem solving;

    c. Keyboarding; and

    d. Systems of technology.

2. Resource Management:

    a. Career planning;

    b. Economics of work;

    c. Human relations; and

    d. Occupational mathematics and science.

According to Dr. Jones, the State of New York began reviewing its occupational education program in 1978. He explained that several committees consisting primarily of representatives of business and industry were created to develop recommendations for an improved curriculum. In 1983, these recommendations were released, and, since 1984, New York State has implemented most of its new curriculum.

The New York curriculum, which Dr. Jones described to the subcommittee in some detail, was designed to respond to the changing needs of students and of employers, and to help students prepare for the future--a future governed by technology. The New York program calls for designated competency achievement for every student in grades 4 through 8, and competency achievement for those students electing to take occupational education programs in grades 9 through 12.

Components governing New York's required programs include the following outcomes:

- Coordinated curriculum;

- Core skills; and

- State standards of accountability.

Doctor Jones recommended that, "Nevada examine its occupational education programs as a whole, and include representatives of business and industry in this process to determine which skills are important for students to acquire."

Noting the implications of both Dr. Swyt's remarks and Dr. Jones' recommendations for the development and implementation of a "new" program of occupational education, Dr. Welsh advised the subcommittee that occupational education was:

> * * * one of the areas we have traditionally short-changed in preparing people to go to work. Statistically, we know virtually everyone graduating from high school will work; but we have not put emphasis on this area * * * to make this happen [in the State of Nevada].
>
> First, there needs to be a commitment, and the commitment needs to be that students will have a salable skill prior to graduation. To make this commitment more than just talking about it to actually making it happen, it needs to be a very specific graduation requirement.
>
> Secondly, there needs to be incentives built in so school administrators, principals and teachers have a reason to promote occupational education classes. At the present time, these classes, which are more expensive and have smaller class sizes, operate with a "D" incentive. As the financial crunch occurs, the administrators in charge of setting up classes naturally will move toward classes that can be operated at a lower expense with larger numbers of students.
>
> Thirdly, there needs to be sufficient dollars placed behind the commitment towards occupational education to make it realistic.
>
> Fourth, there needs to be a partnership and linkage between the schools, business and industry in the communities.
>
> In closing, let me say if we truly as a state wish to have quality occupational preparation programs, it needs two things to make it become a reality. First, a strong

commitment at all levels throughout the state; and second, it needs the dollar incentives placed behind it so it can in fact take place.

In response to concerns being expressed about the status of occupational education in Nevada and reflecting on the need for accountability in the use of "state" funds, June M. Herrmann of the state board of education told the subcommittee that "the state board of education acted by appointing a statewide task force for occupational education to design a system that would restructure Nevada's approach to occupational education." She said that "the task force was appointed in December 1987, and comprised of 25 persons representing business, industry, labor and education." She also advised that "the task force was charged with recommending to the board state policy--course of study/standards--that would provide for an improved, academically sound occupational education system for all students in Nevada, grades 7-12." A draft of the proposed "course of study" was completed in May 1988 and discussed with the subcommittee. The subcommittee also was advised that the proposal would be disseminated for public input in October 1988 before delivery to the state board of education for its consideration.

The "course of study" as presented to the subcommittee by Mrs. Herrmann was described as being "designed to provide students with the skills needed to give them the confidence and capability required for lifelong learning." These are the same skills which business and industry, educators and parents advised the subcommittee that all students need to possess in order to survive in a global economy. These skills include:

1. Basic academic skills in communications, mathematics and science and the knowledge to apply them in work settings;

2. Positive attitudes toward work;

3. Appropriate behavior on the job--interpersonal skills;

4. Learning how to learn;

5. Knowing how to find and process information;

6. Understanding how to solve a problem;

7. Knowing how to make decisions and set priorities;

8. Knowledge of the systems of computers and technology--data manipulation skills; and

9. Career and personal planning skills.

The subcommittee was told that the proposal to be considered by the state board of education is intended to change, reform and restructure occupational education in Nevada. The subcommittee was told that there were four major programs that were purposely designed to be interdependent on one another that would enable students to apply the desired outcomes in a variety of personal and technological use settings. These programs are:

1. Home and career skills, grades 7 and 8;

2. Introduction to technology, grades 7 and 8;

3. Introduction to occupations, grades 9 and 10, and job specific occupational programs, grades 10 through 12; and

4. Career and occupational guidance and counseling, grades 7 through 12.

III. DISCUSSION OF FINDINGS AND RECOMMENDATIONS

A. HOME AND CAREER SKILLS, GRADES 7 AND 8

The subcommittee heard testimony that since the 1982-1983 school year, there has been a 34 percent decrease in home economics courses and programs offered in Nevada's middle and junior high schools (grades 7 and 8). The subcommittee also heard testimony that home economics courses were not offered in many schools, and that the decrease in interest by both school principals and students had been a factor in their elimination. There was testimony that suggested that the "back to the basics" movement and the lack of relevance to students of traditional "cooking and sewing" also were contributing factors. Additionally, the subcommittee was told that there had been no funds earmarked for middle school occupational education programs either through federal or state resources. The contribution, existence, improvement and maintenance of occupational education programs at the middle school level have been an individual school district decision.

The subcommittee also heard testimony that there was a very important and significant change in programming that should

take place in the middle/junior high school home economics program. The merits of a new and restructured program were described under the title "home and career skills." The subcommittee was advised that this program was not traditional "home economics," but could easily draw from the preparation of home economics teachers and the previously taught skills associated with home economics.

The subcommittee was told that in order to prepare for the future, students would need instruction to develop:

1. Skills that lead to effective decisionmaking, management and problem solving;

2. Concepts and skills basic to family and home responsibilities; and

3. Personal skills which will enhance employment and employment retention potential.

A new program of "home and career skills" was described to the subcommittee that would assist adolescents in living in a society of constant change and improve their quality of life by preparing them to meet their present and future responsibilities as consumers, family members, home managers and wage earners. Citizens need to be able to benefit from experience, make sound decisions, manage resources, solve problems and think constructively. The new program was based on:

1. Process skills - Students receive information concerning decisionmaking, leadership and management skills and problem solving which are applicable to all areas of daily living;

2. Personal development skills - Students apply decisionmaking skills to learn about themselves, their individual lives and their relationships with others;

3. Personal and family resource management - Students apply their decisionmaking and management skills to the resources in the world around them, including how they dress, how and what they buy, what they eat and where they live; and

4. Career planning - Students begin to make decisions and solve problems related to tentative career directions.

The subcommittee was told that this program would be taught by using a "hands-on" experiential approach so that

knowledge and principles are applied in a planned, sequential manner. Community involvement, real life tasks and simulations would make the program both interesting and relevant. A program based on these objectives would be needed by all students if Nevada is to prepare its youth for future decisions related to both career and personal goals. The subcommittee was told of the need for $12,180 for each 7th or 8th grade home economics classroom for the initial and one-time purchase of computers, equipment, materials and software. These funds would be needed for initial startup costs only. The state department of education proposed a total of $1,218,000 which would make funds available to 100 classrooms in 49 different schools around the state. The subcommittee, however, noted that this budget did not include Nevada's high schools whose total enrollment in 8th grade was less than 50 students. The subcommittee chose to include all schools and classrooms in its recommendation and final report. Therefore, the subcommittee voted to recommend $1,461,600 to provide $12,180 for each of 120 classrooms in the state's 66 schools that include home economics in either 7th or 8th grade.

The subcommittee was told that should the state board of education act on this proposed course of study as a requirement for all students to achieve before completion of the 8th grade, that full implementation of the student objectives would not be required until school year 1991-1992. Should the 1989 legislature choose to provide an appropriation for the equipment and material needs of this program over the next biennium, schools should have sufficient time to provide for the necessary program development, purchases and training of instructors to meet the time frame of the board.

The subcommittee, therefore, recommends that:

1. **The state board of education be directed to establish a program in "home and career skills" for all students in grades 7 or 8, and a legislative appropriation be made for related instructional equipment and materials in affected classrooms throughout the state. The appropriation needed, which should not be included in salary negotiations for teachers, is a one-time amount of $1,461,000. (BDR 34-271)**

B. TECHNOLOGY EDUCATION, GRADES 7 AND 8

The subcommittee heard testimony that since the school year 1982-1983, industrial arts programs taught at the middle/junior high school level had experienced a 34 percent

reduction in course and program offerings. As with home economics, the industrial arts program has been entirely eliminated in many schools and dropped in others from three instructors teaching a full day to one instructor teaching two periods. The subcommittee was told that the decrease in principal and student interest had been a factor in its elimination. Other testimony suggested that the "back to the basics" movement and the lack of relevance to many students of traditional "shop," such as making bowls and gun racks, also were contributing factors. The subcommittee was told that there had been no funds earmarked for middle school occupational education programs, such as industrial arts, either through federal or state resources. The contribution, existence, improvement and maintenance of middle school programs have been an individual school district decision.

The subcommittee heard testimony that there was a very important and significant change in programming--a complete replacement of the traditional industrial arts program--that should take place in the middle/junior high school. In support of this testimony, the subcommittee was reminded of the impact that technology is bringing about in all areas of the economy. Within the manufacturing sector, the "smokestack" industries, such as automobile production, steel making and textiles, are being replaced by "high tech" industries, such as biomedical engineering and microelectronics. The accelerating rate of industrial change resulting from automation, robotics and widespread computer use is dramatically altering the needs of business and industry and the composition of the United States work force. Workers are being displaced and losing their livelihoods as some traditional industries fail or move to other countries. The "information industry" has become a principal employer in North America and most likely will remain so.

The subcommittee was told that nearly all future jobs will require workers to know how to apply and use information systems. The introduction of computer-aided design and information systems will require workers to enter, manipulate, store and retrieve data. Most important is that the shift to the information or technological society is demanding new and increasingly technical skills and the ability to learn and apply new skills.

The "application" of skills to scientific and technological principles was recommended to be the core of the new program for all 7th and 8th graders, replacing the more traditional industrial arts program. In "introduction to technology,"

students would learn about the influence that technological systems have on their lives, at home, at school and in the world of work. The systems to be studied are biotechnology (agriculture, food processing, medicine and preservation); information/communications technology (electronic and graphic communications, information processing and photography); and physical technology (construction, energy, manufacturing and transportation). A major emphasis, the subcommittee was told, must be on providing students with opportunities to apply their new understanding of technology to the solution of problems and to the design, development, maintenance and operation of systems in each of the three categories. Additionally, the program will assist students in understanding the need for cross-teaching, developing broad transferable skills, individualized self-learning and participative group skills which will enable students to be flexible and maintain a competitive advantage in the work force. The program discussed by the subcommittee is designed to devote 70 percent of the student's time in "introduction to technology" to applied, experiential, "hands-on" learning specifically designed as an educational tool for acquisition and retention of knowledge and motivation. Community involvement, real life tasks and simulations should make the program both relevant and interesting.

The subcommittee also was advised that the program would address the needs of all students so that Nevada may prepare its youth for a future dependent on technology. The subcommittee was told of the need for approximately $6,000 to equip each affected classroom. An initial and one-time purchase would be needed for startup costs only. Computer software, instructional materials and technical equipment would be included in this purchase. The state department of education proposed a total of $600,000 to serve 49 schools and 100 classrooms throughout Nevada. The subcommittee, however, noted that this budget did not include Nevada's schools with enrollment of less than 50. The subcommittee chose to include in its final recommendation all schools with an 8th grade. Therefore, the subcommittee voted to recommend $720,000 for 66 schools which would include 120 8th grade classrooms.

The subcommittee was told that should the state board of education act on this proposed course of study as a requirement for all students, the implementation of the student objectives would be recommended for school year 1991-1992. Should the 1989 legislature choose to provide an appropriation for the equipment and materials purchase of this program over the next biennium, schools would have

sufficient time to provide for the necessary program development, purchases and training of instructors before the target date.

The subcommittee, therefore, recommends that:

2. **The state board of education be directed to establish a program in "introduction to technology" for all students in grades 7 or 8, and a legislative appropriation be made for related instructional equipment and materials in affected classrooms throughout the state. The appropriation needed, which should not be included in salary negotiations for teachers, is a one-time amount of $720,000. (BDR 34-270)**

C. OCCUPATIONAL EDUCATION, GRADES 9 THROUGH 12

The subcommittee heard testimony that current fund resources do not provide adequate support to guarantee that all Nevada students will have access to good occupational education programs. The existing method of funding education in Nevada puts the existence, improvement and maintenance of occupational education programs at risk. This is because of competing priorities at the local level regarding "elective" programs--especially high-cost elective programs, such as occupational education.

The subcommittee heard testimony that occupational education has been suffering from neglect in funding curriculum improvement and instruction. Occupational education has not had the resources nor the leadership to help move it from the so-called "smokestack programming" to programming that would address the needs of the post-industrial society.

State department of education staff described to the subcommittee the current fund resources for education and those earmarked for occupational education. This included a description of the school distributive fund in their report entitled "Funding Occupational Education In Nevada," March 1988 (see Appendix A). The report included a description of the following fund resources:

> A base grant for occupational education is made available from a state appropriation (currently $108,175 per year) divided among 16 participating school districts. This state appropriation is approximately the same amount that has been made by each legislative session since 1971.

The state legislature in 1987 appropriated $243,680 to provide a match for federal money received by the state department of education for administration and technical assistance for occupational education.

During the 1987 legislative session, $81,251 was appropriated to support the Adult and Postsecondary apprenticeship program.

The 1981 legislature, through A.B. 317, appropriated $1,000,000 to support equipment purchases for occupational education. In 1983, the legislature appropriated $3,000,000 through S.B. 135 for the same purposes.

Federal legislation provides Nevada with funds to expand, improve and modernize occupational education programs. Fifty-seven percent of the funds are earmarked to create access to occupational education programming for designated special needs populations, such as the handicapped, disadvantaged, single parents and homemakers. The federal purpose for the remaining portion of the federal funds does not allow the funds to be used to maintain current state or local efforts. In 1985-86, Nevada received $3,413,114. In Program Year 1986-87, the appropriation was $3,301,261; and in Program Year 1987-88 the appropriation was $4,169,135. Eligible recipients include school districts, community colleges and universities.

The subcommittee received testimony that Nevada's occupational education delivery system is currently an informal partnership, composed of the state department of education, community colleges and school districts.

The subcommittee also received some testimony about exemplary and innovative projects currently reforming some components of the system in one or more areas of the state. The subcommittee heard that there was a need to establish clear and precise leadership in order to focus more on Nevada's resources "uniformly" throughout the state on each of these exemplary practices.

Given adequate funding and state board of education direction, the subcommittee was advised that state and local resources need to be focused on certain elements of reform. In the opening meeting on October 22, 1987, the subcommittee heard testimony that over the years there has been intense study, discussion and challenging work by several state-appointed committees, councils and study groups. Each has

recommended, in one form or another, that "policy" or common elements regarding occupational education programming at the secondary level ought to be adopted or established by the state board of education, which also serves as the state board for occupational education. These common elements were included in the text of the proposed Occupational Education Course of Study presented to the subcommittee at its May 3, 1988, meeting in Elko, Nevada.

These recommendations, by their implementation, would reform occupational education programs at the secondary level and provide for evidence of accountability in the use of state funds, the establishment of business and industry as partners in the occupational education system, and certification of a completing student's performance at the competency level. These elements of reform were recommended for consideration by the board's task force as well as the state board of education. They include:

Articulation	Curriculum and instruction is organized and sequenced so that students may advance appropriately at their own pace and may qualify to enter a higher level of education (community college) without the necessity of repeating previously learned skills.
Business, Industry and Labor Partnership with Education	The development of a realistic partnership with local business, industry and labor in which there is shared responsibility for curriculum, equipment, facilities and instruction--a partnership that includes the identification and assessment of the product of the "learning" experience, which is the student.
Business, Industry and Labor Validation	Competencies to be achieved by the students are validated by business and industry through an ongoing process to include academic, employability and technical skills.
Certificated Student	Competencies achieved by the students are documented on a student-held "certificate."

Curriculum	Job-specific curriculum is competency based and applies basic skills in communications, mathematics and science to relevant occupational skills.
Instruction	All instruction is competency based and focused on applied, "hands-on" learning.

The subcommittee also was presented with testimony about the "excess cost" of occupational education. A statewide comparative cost study between academic and occupational education in Nevada, grades 9 through 12, was conducted by the state department of education in the spring of 1987 (see Appendix B). This study attempted to compare per student costs between academic and occupational education on a statewide basis. By using variables which had been identified as requiring different costs (e.g., class loads, consumable supplies, equipment and maintenance/repair), an aggregated statewide estimate was made regarding the excess costs of occupational education. The study indicated that the costs of occupational education average 52 percent higher per pupil than academic education. The study provided a formula design which could use the existing Nevada distributive school funding formula to compute a per pupil distribution of a guaranteed amount to be set aside in the general fund for each school district.

As presented to the subcommittee, it was estimated that the statewide excess costs would reach $8,792,559 for school year 1987-1988.

The subcommittee discussed the current and future impact on state resources of a "guarantee" to occupational education. The subcommittee recommended reducing the amount of the request for the next biennium to 25 percent, suggesting that further consideration be given to increasing the amount during the 1989 session.

The subcommittee, therefore, recommends that:

3. **In recognition of the additional costs associated with occupational education programs in grades 9 through 12, additional money should be appropriated for use by local school districts specifically for occupational education programs, including enhancement of these programs through the inclusion of student competencies--introducing students to occupations in grades 9 and 10,**

and improving job-specific programs in grades 10 through 12. The state board of education also should be directed to develop a course of study for grades 9 through 12. The full additional funding needed ($8,792,559 per year, currently) should be appropriated in the future as money becomes available. Full funding should be phased in over time, and for the 1989-1990 and 1990-1991 fiscal years, it is recommended that the legislature appropriate 25 percent of the identified excess costs ($2,198,139.75) for each of these years. Appropriations of this type, which should not be included in salary negotiations for teachers, will be required on an ongoing basis.

The state board of education should recommend the allocation of a base amount to each school district, and the remainder should be distributed based upon the number of students in each district who are enrolled as full-time students in occupational education on the last day of the first month of each school year. Each school district should justify its use of the money. (BDR 34-269)

D. CAREER AND OCCUPATIONAL GUIDANCE AND COUNSELING, GRADES 7 THROUGH 12

The subcommittee heard testimony calling the national school reform movement's failure to embrace comprehensive guidance and counseling programs an omission with severe consequences for America's youth. The subcommittee was told that an honest look would show an immense disparity between what school counselors do and what all students need.

Guidance and counseling in schools, the subcommittee learned, should be a comprehensive program which addresses the needs of all students, not an ancillary service which only deals with college-bound students or crises. Schools need to break down the barriers between education and the world of work. For the student bound for higher education and a professional degree, the education system provides ladders from school to career. The majority of America's youth, however, will step off the educational ladder long before reaching the level of a professional career--with nowhere to step next. They are on their own in the search for work. These young people need guidance and the competencies which will enable them to succeed educationally, occupationally, personally and socially in a world which will demand more flexibility and skill than has been demanded in the past.

The program offered to the subcommittee by the state board of education's occupational education task force provides a dramatically new and different approach. This program would provide every student in grades 7 through 12 both access and opportunities to a guidance program with the following assumptions that guidance is:

1. A program for all students;

2. An integral part of the education process which supports and provides direction for other programs;

3. Primarily developmental in nature, yet additional programs and remediation are needed for some students;

4. A planned, sequential program that enables students to develop to their full potentials;

5. A team relationship among administrators, counselors, parents, students, teachers and the community working together;

6. Delivered through a variety of instructional systems by business and industry, parents, school staff, students and teachers; and

7. Evaluated as to its effectiveness on student competencies.

Every Nevada student needs career and occupational guidance in order to develop decisionmaking skills, increase esteem and knowledge of self and others, provide an opportunity for student-counselor interaction and relate school to work.

A comprehensive career and occupational guidance and counseling program is needed by 100 percent of the student population. Students can gain competencies to address their needs through a programmatic approach to guidance and counseling instead of a clinical/crisis model where only a few students are served. Existing licensed guidance staff would be accountable for program management and structure, yet all school personnel would be an integral part of the student-centered guidance program.

A career resource center would be a major component of the comprehensive guidance and counseling program. This center would be administered and supervised by licensed guidance personnel, maintained and staffed by unlicensed personnel, and accessible to all students. The career resource center would include the necessary information, materials and

resources (including the Nevada Career Information System [CIS]) to help deliver the curriculum which develops student competencies.

The program was described to the subcommittee as being an integral part of each school's total education program. It includes sequential activities managed and organized by licensed school counselors with delivery and implementation support from administrators, business and industry, parents, students and teachers in classrooms. The career and occupational guidance and counseling program, the subcommittee was informed, includes four very important interrelated structural components:

1. Guidance curriculum -

    a. Career development (career exploration and planning is delivered through the career resource center which includes the CIS);

    b. Educational and occupational development; and

    c. Personal and social development (knowledge of self and others).

2. Individual planning -

    a. Individual advisement;

    b. Individual appraisal; and

    c. Placement.

3. Responsive services -

    a. Consultation;

    b. Crisis counseling;

    c. Personal counseling; and

    d. Referral.[1]

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[1]Counselors use referral sources to deal with crises such as physical and substance abuse, suicide and violence. These referral sources may include employment and training programs, juvenile services, mental health agencies, social services and vocational rehabilitation.

4. System support -

System support consists of management activities that establish, maintain and enhance the total guidance program. This component is implemented and carried out through activities in the following areas:

a. Advisory councils;

b. Community outreach;

c. Consultation with teachers;

d. Professional development;

e. Program management and operations;

f. Research and development; and

g. Staff and community relations.

The subcommittee was advised that the cost to begin implementation of this guidance and counseling program would be confined to the critical component of a career resource center (including the CIS) to be located in every middle school and high school in the state. These costs would include the following:

Local nonlicensed personnel to staff and maintain the career resource centers -	
32 full-time "career aides" for large high schools x $15,000	$ 480,000
20 half-time "career aides" for small high schools x $7,500	150,000
17 full-time "career aides" for large middle schools x $15,000	255,000
24 half-time "career aides" for small middle schools x $7,500	180,000
Nevada CIS software and license fees	42,000
Full-time "information analyst" at the state level to develop and update CIS program software	40,000

Full-time "user service coordinator" at the state level to assist schools in developing programs which will access the CIS for all students, grades 7 through 12	40,000
Equipment -[2]	
18 large high schools x three stations x $2,000	108,000
14 medium size high schools x two stations x $2,000	56,000
20 small high schools x one station x $2,000	40,000
17 large middle schools x two stations x $2,000	68,000
25 small middle schools x one station x $2,000	50,000
TOTAL:	$1,509,000

The subcommittee discussed the proposal and determined to recommend that the state board of education create a course of study for career and occupational guidance and counseling, and that given available resources, the legislature consider funding the program.

The subcommittee, therefore, recommends that:

4. **The state board of education be directed to establish a course of study for a comprehensive guidance and counseling program in grades 7 through 12 of Nevada's public schools, including the Nevada Career Information System, which would be phased in as funding becomes available. (BDR 34-268)**

E. OCCUPATIONAL EDUCATION STUDENT ORGANIZATIONS

The subcommittee heard testimony that every student who is enrolled in occupational education should have access to a related student organization, with leadership provided by a

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2The CIS requires an International Business Machine (IBM) or IBM compatible personal computer and a printer. Each computer and printer constitutes a "station."

trained individual in the organization. The five organizations that are recommended to be integral components of each occupational education program are:

1. Distributive Education Clubs of America (DECA);

2. Future Business Leaders of America (FBLA);

3. Future Farmers of America (FFA);

4. Future Homemakers of America (FHA/HERO); and

5. Vocational Industrial Clubs of America (VICA).

The subcommittee was advised that these organizations help students to maximize their occupational education experiences. Students enter into the excitement of leadership challenges and healthy competition, not unlike the real world marketplace. Occupational student organizations specifically provide students with confidence, positive interactions and role models. The subcommittee also was told that these opportunities are invaluable to students, particularly to those who may not be able to experience them elsewhere within the school system.

The subcommittee was advised that it is unfortunate that not all schools and/or occupational education teachers provide the opportunity for students to elect to join one of these occupationally related student organizations. Many students who could benefit from the leadership activities and experience will not graduate with the confidence and leadership skills they might otherwise have obtained.

On behalf of the state council for occupational education, Senator Erik Beyer, a member of the council, recommended that "every student who is enrolled in occupational education have access to the related student organization, with leadership provided by an individual trained in the leadership of the organization. Since the occupational student organizations are an integral part of the occupational education program, the legislature should provide a minimum of $500 (total allocation necessary of $47,500) for the operation of each occupational education organization chapter and place a priority on the existing state grant for support of those organizations."

The subcommittee discussed the merits of the recommendation and expressed concern about the precedent of funding student clubs and/or similar activities.

The subcommittee, therefore, recommends that:

5. **The state board of education be urged to require that all students have an opportunity to participate in an occupational education youth organization. (BDR R-266)**

F. OCCUPATIONAL EDUCATION TEACHER PREPARATION

The subcommittee heard testimony that there is limited opportunity for persons to prepare to become instructors in many of the occupational education fields. In addition, current instructional staff are not being provided with the advanced occupational education course work needed to meet the demands of students and of business and industry. The subcommittee was advised that Nevada's university system does not offer, on a timely basis, the requirements necessary to obtain a license in occupational education or to obtain a graduate degree in an occupationally related field.

Senator Beyer, on behalf of the state council for occupational education, also recommended that "Through legislative action, the university system should be mandated to initiate a 4-year developmental program which would result in the University of Nevada's providing at least 90 percent of the occupational teachers needed in the state; and those teachers should not only be prepared in their particular occupational specialty, but trained in the techniques of teaching academic skills within the context of occupational education without deteriorating the content of the occupational area."

The subcommittee, therefore, recommends that:

6. **The University of Nevada System board of regents be urged to review current programs for preparing occupational education teachers and to increase the availability of these programs (BDR R-265)**

G. SPECIAL EDUCATION STUDENT SERVICES IN OCCUPATIONAL EDUCATION

The subcommittee heard testimony concerning the benefit to "special students" of participation in occupational education programs. The subcommittee was advised that while the goals of occupational education does not need change, instruction for special students does need modification. There also is need for adaptive equipment, instructional aides and texts.

Further, the state council for occupational education recommended that as the legislature considers "the expansion of services to the special students of Nevada, a "set aside" from those resources should be made to assure the availability of special adaptive occupational education programs for the handicapped. Each individual education plan developed for the handicapped should be required to include a goal which would consider the employment preparation of all handicapped students."

The subcommittee, therefore, recommends that:

7. **Local school boards in Nevada be urged to provide the resources needed to develop special education services within occupational education programs. (BDR R-264)**

H. ACADEMIC CREDIT TO BE EARNED IN OCCUPATIONAL EDUCATION PROGRAMS

The subcommittee heard testimony that not all school districts are permitting students to obtain academic credit in certain occupational education programs as an option in meeting high school graduation requirements. Therefore, the subcommittee was advised that this important option for students who wish to seek alternative programming should be uniformly applied throughout the state.

The subcommittee, therefore, recommends that:

8. **Local school districts in Nevada be urged to implement the state board of education's policy (Nevada Administrative Code 389.672, "Academic credit for occupational courses of study," [Appendix C]) on awarding academic credit for an occupational course(s) when it has been substantiated that the curriculum for the occupational course of study includes the curriculum of the academic course of study. No more than two credits in English, one credit in mathematics, and/or one credit in science may be earned for graduation through this alternative route.**

   The University of Nevada System (UNS) board of regents also should be urged to accept an occupational course(s), which has been approved for academic credit, toward the admission requirements to the UNS universities and community colleges. (BDR R-288)

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VI. APPENDICES

APPENDIX A

"Funding Occupational Education in Nevada--
Background Report For The Interim Finance Committee's
Subcommittee On Occupational Education"

FUNDING OCCUPATIONAL EDUCATION IN NEVADA

BACKGROUND REPORT FOR THE
INTERIM FINANCE COMMITTEE'S
SUBCOMMITTEE ON OCCUPATIONAL EDUCATION

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March 1988

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CHAPTER I

GENERAL FINANCING OF PUBLIC ELEMENTARY AND SECONDARY EDUCATION IN NEVADA

Introduction

Considerable national and statewide attention has been focused on public education in the last several years and significant changes in the method of financing Nevada's public schools have occurred since 1979. Additionally, public education is the single largest appropriation approved by the Nevada legislature each biennium. State general fund appropriations for all educational programs were increased by the 1985 legislature from 55.2 percent of the total general fund for the 1983-85 biennium to 57.0 percent for the 1985-87 biennium. Educational funding was increased by the Nevada legislature again in 1987, with 57.7 percent of the total general fund appropriations for the 1987-89 biennium going to public education. Of the 57.7 percent, the University System received 19.4 percent, K-12 education received 37.6 percent, with the remaining .7 percent for other.

The Nevada Plan - Financing Public Elementary and Secondary Education in Nevada

Article 11 of the Nevada constitution requires that the legislature provide for a uniform system of public schools and Nevada Revised Statutes (NRS) 387.121 declares that the proper objective of state financial aid to public education is to ensure each Nevada child a reasonably equal educational opportunity. Nevada Revised Statutes 387.121 further recognizes that wide local variations in wealth and

costs per pupil exist across the state and that the state should supplement local financial ability to whatever extent necessary in each school district to provide programs of instruction that offer full opportunity for every Nevada child. This concept is described in NRS 387 and is enbodied in a formula known as the "Nevada Plan."

The Nevada Plan is the current method used to finance elementary and secondary education in Nevada's public schools. The process is one in which the state provides a guaranteed amount of funding to each local school district. The cost of the guarantee is shared by the local school district and the state. On a statewide basis, the total guarantee makes up approximately 80 percent of the total general fund (operating revenue) resources available to school districts.

The guarantee to districts is supported from two major sources:

a. The Distributive School Fund account which includes a legislative appropriation from the state's general fund; a 1.5 cent local school support tax which is collected on out-of-stat purchases; annual slot machine taxes; federal mineral land leas income; and interest income from investments of the permanent school fund.

   Plus,

b. A 1.5 cent local school support tax collected on in-state sales and a 25 cent ad valorem tax (property tax).

In addition to the guarantee, each school district has available to it other revenues, including an additional 50 cent ad valorem tax, federal funds, moto

vehicle privilege tax and other revenues. The table which follows, titled "School Funding in Nevada," provides a breakdown of the sources of money guaranteed for elementary and secondary education in Nevada during fiscal year 1987-88.

Local school districts receive quarterly apportionments of state aid based on a count of children enrolled in schools within the district on the last day of the first school month of the year. Each local school district is guaranteed a specific amount per pupil which is developed through a formula that considers the demographic and geographic characteristics of the district. Transportation is included in the amount per pupil at the rate of 85 percent of actual historical cost to the district with an increase for inflation based on the Consumer Price Index. A wealth adjustment is made to state support per pupil based on a local school district's ability to generate revenues that are outside of the guarantee level.

Special education, which was added to the Nevada Plan in 1973, is funded categorically at a legislatively approved amount per program unit. A special education program unit is an organized instructional unit which includes the full-time services of a licensed teacher providing a program of instruction in accordance with minimum standards prescribed by the State Board of Education. For fiscal year 1987-88, the legislature allocated $25,800,000 to special education.

Local school districts are partially protected from a loss of state aid due to significant decreases in enrollment through a statutory "hold harmless" provision which guarantees a district payment based upon a prior year's

enrollment if the current year enrollment is less. Also, a district receive an additional basic support guarantee if, after the second month. enrollment in that district increases by more than a prescribed amount.

SCHOOL FUNDING IN NEVADA

Fiscal Year 1987-88

(Elementary and Secondary Education Only)

Source	Amount	Percent o Total
State General Fund Appropriation	$220,215,271	50.6
Local School Support Tax (1.5 cent Sales Tax)	140,823,500	32.4
Ad Valorem Tax (25 cent Property Tax)	38,880,500	8.9
Annual Slot Machine Tax	18,488,000	4.2
Interest from Investments of the Permanent School Fund	2,625,000	0.6
State Share of Mineral Leases on Federal Land	4,000,000	0.9
Sales Tax on Out-of-State Purchases (1.5 cent Use Tax)	10,165,000	2.3
	$435,197.271*	

*The total guarantee represents approximately 80 percent of total funding available to local school districts. Other resources available to school districts include an additional $.50 ad valorem tax, a share of the motor

vehicle privilege tax, certain federal impaction funds and other miscellaneous revenues.

FACTORS FOR EXPENDITURE

Basic support per pupil average 1987-88			$ 2,517
Estimated per pupil expenditure 1987-88			$ 3,206
Enrollment 1987-88			168,353 (full)
1987-88 Special Education unit	1,075 @ $24,000 per unit		$25,800,000
1988-89 Special Education unit	1,115 @ $24,000 per unit		$26,760,000

CHAPTER II

REVIEW OF NEVADA REVISED STATUTES RELATING TO OCCUPATIONAL EDUCATION

Nevada's statutes relative to occupational education, NRS 388.330 through 388.360, establish the organizational structure statewide for occupational education.

Nevada Revised Statutes 388.330 identifies the State Board of Educatio as the State Board for Occupational Education, and NRS 388.360 establishes, in part, the following powers for the Board:

"1. Cooperate with any federal agency, board or department designated to administer the Acts of Congress apportioning federa money to the State of Nevada for occupational education.

2. Establish policies and adopt regulations for the administratio of any legislation enacted pursuant thereto by the State of Nevad

3. Establish policies and adopt regulations for the administratio of money provided by the Federal Government and the State of Neva for the promotion, extension and improvement of occupational education in Nevada.

4. Establish policies or regulations and formulate plans for the promotion of occupational education in such subjects as are an essential and integral part of the system of public education in the State of Nevada.

5. Establish policies to provide for the preparation of teachers of such programs and subjects.

6. Approve positions for such persons as may be necessary to

administer the federal act and provisions of this Title enacted pursuant thereto for the State of Nevada.

7. Direct its executive officer to make studies and investigations relating to occupational education.

8. Establish policies to promote and aid in the establishment by local communities of schools, departments or classes giving training in occupational subjects.

9. Cooperate with local communities in the maintenance of such schools, departments or classes.

10. Establish policies or regulations to cooperate in the maintenance of classes supported and controlled by the public for the preparation of the teachers, directors and supervisors of occupational subjects, or maintain such classes under its own direction and control.

11. Establish by regulation the qualifications required for persons engaged in the training of occupational teachers."

Nevada Revised Statutes 388.380 specifies that "the board of trustees of a school district in a county whose population is 100,000 or more shall and any other board of trustees of a school district may:

1. Establish and maintain occupational schools or classes giving instruction in the subjects approved by the state board for occupational education.

2. Raise and expend money for the establishment and maintenance of occupational schools or classes."

CHAPTER III

CURRENT FEDERAL AND STATE FUNDING FOR OCCUPATIONAL EDUCATION IN NEVADA

A. CARL D. PERKINS FUNDING FOR OCCUPATIONAL EDUCATION

The Federal purpose for these funds is "to assist the states in expending, improving, modernizing and developing quality Occupational Education programs to meet the nation's workforce need for marketable skills and to promote economic growth."

In addition, the Carl Perkins Vocational Act provides for:

- Assisting individuals who are inadequately served including handicapped and disadvantaged; men and women seeking nontradition careers; adults in need of training and retraining; single parent and homemakers; and incarcerated persons.
- Promotion of cooperation between public and private sectors.
- Improvement of Academic Foundations.
- Assisting programs in economically depressed areas.
- Assistance to states to provide support services in guidance, placement and other special programs.
- Improvement in Consumer and Homemaking Skills and Programs.

Funds set aside for the previously stated special population groups may be used to support current local effort. However, the Federal purpose for all other programs does **not** allow funds to be used to "maintain" current state or local effort or program with the exception of programs serving special ne populations. These Federal funds may only be used to improve, expand and/or establish "new" programs of Occupational Education.

In Program Year 1985-86, Nevada received a total appropriation of $3,413,114. In Program Year 1986,87, the appropriation was $3,301,261. In Program Year 1987-88, the appropriation was $4,169,135.

One hundred twenty-three individual projects submitted by sixteen eligible recipients have received funding in twenty-seven Federal fund categories. The following are those eligible recipients who submitted applications:

School Districts	Community Colleges	Universities	Other
Carson City	Clark County	UNLV	State Fire Marshal Division
Churchill	Northern Nevada	UNR	
Clark	Truckee Meadows		SOICC
Lincoln	Western Nevada		
Lyon			
Washoe			
White Pine			
Humboldt			

The 1987-88 disbursement of funds (including carryover) to eligible applicants occurred according to required federal criteria and in the following amounts statewide:

1. 57 PERCENT TITLE II, PART A - SPECIAL POPULATIONS

Programs	Federal Funds	Distributed By
10% Handicapped	$ 429,474	Entitlement/Direct Match Req.
22% Disadvantaged	$1.000,924	Entitlement/Direct Match Req.
12% Adult and Postsecondary Fire Service Apprenticeship Economic Development	$ 526,290	Competitive/Match Req.
8.5% Single Parents and	$ 322,050	Competitive/No Match Req.
3.5% Sex Equity	$ 134,042	Competitive/No Match Req.
1% Corrections	$ 54,313	Competitive/No Match Req.

2. 43 PERCENT TITLE II, PART B - PROGRAM IMPROVEMENT

Programs	Federal Funds	Distributed By
Only for Program Improvement	$1,803,747	Competitive/Match Req.

Exemplary Programs - Start-Up Costs

Teacher Training (PDC)
Curriculum - Restructuring Curriculum 7-12 and Beyond
Career Guidance: Model Guidance/CIS
Applied Technology
Applied Math
Applied Science
Research
Cooperative Education
Program Development

3. TITLE III, SPECIAL PROGRAMS

Programs	Federal Funds	Distributed By
Community Based Organizations	$ 65,296	Competitive/No Match Req.
Consumer and Homemaking	$134,027	Competitive/No Match Req.

TOTAL FUNDS $4,470,169 (Including annual appropriation and carryover

B. State Funds for Occupational Education

A Base Grant of $108,175 was also made available, from a State appropriation, to each school district. Sixteen (16) school districts completed applications and received this funding. The funds are being used to support program, occupational youth organizations and teacher training activities. Funds were also appropriated during 1987 legislation in the amount of $81,251 to support Adult and Postsecondary, Apprenticeship program.

In addition the state legislative in 1987 has appropriated $243,680 to provide a match for federal money received by the state department of education for administration and technical assistance for occupational education.

CHAPTER IV

EXAMPLES OF FUNDING FOR OCCUPATIONAL EDUCATION IN OTHER STATES

Two excellent examples of other states using an excess cost factor to support occupational education programs include Arizona and South Carolina. In Arizona, the state board for vocational and technical education annually submits a list of high cost vocational and technical education programs which are eligible for excess cost funding. The list includes only those programs which prepare pupils for high demand occupations and which have a cost factor high enough to justify the additional funding weight, as determined by a cost study. A school district which applies for approval for an excess cost program may also submit the costs of ninth and tenth grade courses which prepare pupils for that program and may request monies for support of the preparatory courses from other appropriated funds. The total number of programs approved by the board may not be such that the total costs of support exceeds a fixed amount provided by the state legislature. The base year for the vocational funds was 1985-86 and the beginning amount was set at $3,000,000. The fixed amount provided by the legislature is annually adjusted by a growth rate prescribed by state statutes.

In 1987-88, Arizona received 6.9 million dollars in state funding to support programs for 126,664 occupational students in grades 9-12. Receipt of funds by local school districts will be, in FY 89, linked to state mandated standards for programs. There is on-site monitoring by state personnel for compliance with standards. Audits are also conducted for added cost programs to ensure accurate reporting of enrollment.

In South Carolina, cost factors or weightings are established to provide for relative cost differences between programs for students on the basis of pupil needs. For vocational technical programs, a weighting of 1.29 is used for each vocational student and a weighting of 1.20 is used for each pre-vocational students. The average daily membership in each student classification is mulitiplied by the weighting factor and the resulting weighted pupil units are then multiplied by the base student cost figure established annually the General Assembly. In South Carolina, the local districts are required to contribute approximately 30 percent of the weighted pupil costs in support of the state foundation program. When this funding system was established in South Carolina, a five-year phase-in plan of implementation was utilized.

In 1987-88, South Carolina received $153,000,000 in state funding to support programs for 283,274 occupational students (116,000 grades 9-12; 53,726 postsecondary; and, 113,548 adult vocational). The receipt of these funds are linked to continued compliance by local programs with state mandated standards. To insure accountability there is on-site monitoring by state personnel, state reporting requirements and placement/follow-up reports.

In addition to the above mentioned funding, 25 million dollars was appropriated by the state legislature, over a five-year period, for occupational equipment.

CHAPTER V

NEVADA DEPARTMENT OF EDUCATION PROPOSAL FOR PROGRAM DEVELOPMENT AND FUND SUPPORT

INTRODUCTION

The Department of Education is proposing a new role for Occupational Education which calls for the development of a balanced program that enabl students to acquire broad, transferable skills for employment as well as j specific skills. In it's new role, Occupational Education would provide students not only with entry-level job skills, but also with the basic skills that will enable them to adapt quickly to the changing requirements of new technology and to benefit from lifelong education and retraining opportunities. Among the most important of the broad, transferable skills needed by Occupational Education students are:

1. knowledge of the systems of computers and technology,
2. problem-solving and decision-making skills,
3. resource management skills,
4. understanding of the economics of work,
5. applied math and science,
6. career planning skills,
7. interpersonal skills,
8. data manipulation skills.

Nevada's occupational education delivery system is currently an informal partnership, composed of school districts, community colleges and Departme of Education personnel.

Exemplary and innovative projects are currently reforming components of the system in one or more regions of the State, in school districts and community colleges. Federal Carl Perkins occupational education funds and State Board of Education priorities support the creative initiatives of many local educators.

However, clear and precise leadership is needed in order to focus more of the State's resources "uniformly" throughout the State on each of these exemplary practices.

Although our state has in the past provided funds for occupational education, these funds were often only provided on a one-time basis, and did not provide consistent support to encourage the building of quality occupational education programs in each district.

Significant and creative attention must be given to the reform and renewal of occupational education and the creation of a responsive occupational education system, grades 7-14, school district and community college The system must serve both youth and adults, in order to assist them to participate productively in Nevada's current, expanding and future businesses and industries.

To accomplish this, a unified effort of state and local resources is needed to focus on each of the following six elements of reform:

1. **Curriculum Renewal**

   a. Infusion of the academics, mathematics, science, communication skills.

b. Infusion of employment skills -- work maturity traits; attitudes, cooperation, decision-making, getting and keeping a job.

c. Identification of technical skills; current job related skills.

2. **Instructional Improvement:** Teaching methodology associated with instruction in the academics, "application" as a learnin tool, and management of individual and group learning activities.

3. **Career and Occupational Guidance:** Under the management of the current guidance staff, infusion of Career and Occupational guidance within the curriculum and instructional program throughout each school, including the establishment of Career Information Resource Centers.

4. **Business, Industry and Labor Partnership with Education**

5. **Articulation of Occupational Education Programs and Sequencing of Instruction, - Grades 7-14**

6. **Program Delivery: Time, Location and Frequency of Delivery**

COMPARATIVE COST STUDY

The 1987 legislative session had indicated a need to examine what could be done to provide a stable source of funds to the school systems of Nevada. In response to this, the Department of Education undertook a comprehensive study to put in place recommendations which could provide a stable and consistent source of funding for occupational education programs in Nevada. This study, entitled Statewide Comparative Cost Study Between Occupational and Academic Education in Nevada, Grades 9-12, generated enough legislative interest to lead to S.B. 165, which looks comprehensively at all facets of occupational education programming, not solely funding concerns.

The Statewide Comparative Cost Study Between Occupational and Academic Education In Nevada, Grades 9-12 was conducted in the spring of 1987, and attempted to compare per-student costs between occupational and academic education on a statewide basis in Nevada. Using variables which had been identified as requiring different costs (i.e.: consumable supplies, equipment, maintenance/repair and class loads), information was collected from each Nevada district which offered secondary occupational programs. Costs were calculated on either the 1986 or 1987 school year, dependent upon which year the district felt provided the most accurate reflection of costs. Data was then aggregated to yield a statewide estimate.

Not only did the study identify and prove conclusively that the costs for occupational education are higher, the study was charged with designing a formula which could use the existing Nevada Distributive School funding formula. To meet this task, costs were calculated as a percentage of per

pupil funding, and tied to each districts' occupational enrollments.

Based upon the baseline per pupil funds and occupational enrollments recorded during the 1986-87 school year, it was estimated that the statew excess costs would reach $8,174,172. Since only the most accurate and up to-date information would be of use to the legislature, the 1987 formula h now been updated to reflect the appropriate 1987-88 enrollments and per pupil funding. (See Table 1 below.) Table 1 illustrates an increase fro the original estimates based on the first year of the biennium. The original 1986-87 estimate of $8,174,172 has increased for 1987-88 by $618,000, to a total of $8,792,559. This is due primarily to an increase the basic per pupil funding through the Distributive School Account. Occupational enrollments which impact these figures have fluctuated betwe districts, but statewide have remained stable.

If excess costs for occupational education are funded, a follow-up impact study is recommended to evaluate the effectiveness of a stabilized fundin source for occupational education after the initial two-year period.

TABLE 1

Recommended Basic Support Funding for
Nevada's Occupational Education Enrollments
Grades 9-12 (in whole dollars

	1987-88 Basic Support Per Pupil	Percent Additional Cost Per Pupil	Recommended Differential Funded Per Student	Recommended District* Occupation Education Enrollment	Occ. Ed. Differential Funding Districtwide
Carson City	2769	52	1440	222	$ 319,680
Churchill	2849	52	1481	190	281,390
Clark	2446	52	1272	3878	4,932,816
Douglas	2493	52	1296	182	235,872
Elko	2855	52	1485	255	378,675
Eureka	3606	52	1875	16	30,000
Humboldt	2799	52	1455	132	192,060
Lander	2967	52	543	56	86,408
Lincoln	4442	52	2310	106	244,860
Lyon	3106	52	1615	174	281,010
Mineral	3026	52	1574	53	83,422
Nye	2978	52	1549	159	246,291
Pershing	2966	52	1542	50	77,100
Storey	4047	52	2104	15	31,560
Washoe	2331	52	1212	1046	1,267,752
White Pine	3379	52	1757	59	103,663

TOTAL RECOMMENDED STATEWIDE DIFFERENTIAL FUNDING FOR OCCUPATIONAL EDUCATION $8,792,559

SPECIFIC PROGRAM PROPOSALS

Home and Career Skills

It is recommended that a program be developed based on the belief that the ability to reason, to think critically and creatively and to reflect on actions will empower students to act responsibly toward themselves, their families, their peers and the larger society. The program recommended should concentrate on the development of the reasoning skills needed to solve the practical problems of daily living. The desired outcome is reasoned action.

In this program all students would:

- **develop skills that lead to effective decision making, problem solvi and management in the home, school, community and workplace;**
- **develop concepts and skills basic to home and family responsibilitie and**
- **develop personal skills which will enhance employment potential.**

This program would be required for all middle school students and completed t the end of the 8th grade. It would also serve as a foundation course for every occupational education program. The course is designed so that instruction would be provided through hands-on, experiential based learning activities. It may be organized into highly interrelated and interdependent modules: Process Skills; Personal Development; Personal and Family Resource Management, and Career Planning.

Home economics instructors are qualified to teach the program. Other license Occupational Education instructors may be qualified to teach only specific modules.

INTRODUCTION TO TECHNOLOGY

A program of instruction should be designed to enable all students to understand the concepts that underlie technological systems. Instruction should be provided in three broad categories, biotechnology (agriculture medicine, food processing and preservation), information/communications technology (information processing, photography, graphic and electronic communications) and physical technology (construction, energy, manufacturing, transportation).

It is recommended that all students be required to achieve competencies designed to assist them in understanding and applying newly acquired technological literacy to the solution of problems. Through a study of such resources as, materjals, tools and machines, information, capital, human labor, time and energy and an exploration of how these resources are combined in technological systems, students would be provided with conceptual tools that would be useful in solving technological problems. Opportunities would also be provided for students to propose creative, innovative and nontraditional solutions to problems.

Such a program would be required for all middle school students to be completed before the end of the 8th grade. It should also serve as a foundation course for every occupational education program. The course is designed so that instruction would be provided through hands-on, laboratory-based activity. In addition, the following skills and concepts are identified as important to address in all parts of instruction: applied mathematics concepts, applied science concepts, communication skills, safety, computer usage and career related information.

Industrial arts and agriculture instructors are currently qualified to teac the program. Teachers of science are also qualified to teach specific modules.

If the 65th Session of the Nevada Legislature were to support this program an appropriation of funds to support the equipment and computer software requirements would be required:

Program Year 1989-90, (50 percent of middle schools)	**$ 300,000**
Program Year 1990-91, (50 percent of middle schools)	**300,000**
	$ 600,000*

(*100 classrooms x's $6,000 each)

CAREER AND OCCUPATION GUIDANCE - GRADES 7-12

In the 19th annual Gallup Poll (September 1987) of the "Public's Attitudes Toward the Public Schools," Career Education and Guidance was listed as th sixth most important subject that the public would require of all high school graduates--ranking only behind Math, English, Social Studies, Scien and Computer Training.

Every Nevada student needs career and occupational guidance in order to relate school to work, develop decision-making skills, increase knowledge and esteem of self and others and provide an opportunity for positive student-counselor interaction.

A comprehensive career and occupational guidance and counseling program is

needed by 100 percent of the student population. Students can gain competencies to address their needs through a programmatic approach to guidance and counseling instead of a crisis/clinical model where only a few students are served. Existing licensed guidance staff would be accountable for program structure and management, yet all school personnel would be an integral part of the student-centered guidance program.

Student outcomes (competencies) would demonstrate the accountability of the guidance and counseling program. These competencies would be included under the following broad categories:

1. **Planning and Developing Careers**
2. **A Knowledge of Self and Others**
3. **Educational and Occupational Development**

A Career Resource Center would be a major component of the comprehensive guidance and counseling program. This center would be administered and supervised by licensed guidance personnel, staffed and maintained by nonlicensed personnel, and also be accessible to all students through the Comprehensive Guidance Program. The Career Resource Center would include the necessary materials, resources and information (including the Nevada Career Information Development System) to deliver the program which develops student competencies.

If the 65th Session of the Nevada Legislature were to support this program,

an appropriation of funds to provide for the support staff, equipment, software, support staff and fees necessary to the Career Resource Center component of the Comprehensive Guidance Program, would be needed:

Program Year 1989-90			$ 876,000
High School			
Equipment		$204,000	
18 sch-3 stations	$2,000 each		
14 sch-2 stations	2,000 each		
20 sch-1 station	2,000 each		
Support Staff		630,000	
32 sch-1 aide	$15,000 each		
20 sch-.5 aide	7,500 each		
License Fees		42,000	
Program Year 1990-91			$1,274,550
Middle School		$118,000	
Equipment			
17 sch-2 stations	$2,000 each		
25 sch-1 station	2,000 each		
Support Staff		442,500	
17 sch-1 aide	$15,000 each		
25 sch-.5 aide	7,500 each		
License Fees		42,000	
High School			
Support Staff		630,000	
License Fees		42,000	
Program Year 1991-92			$1,154,000

Support Staff	**$1,072,500**
License Fees	**82,000**

OCCUPATIONAL EDUCATION PROGRAMS: GRADES 9-12

Introduction to Occupations: Grades 9 and 10 Recommended Program

Prior to enrollment in Job-Specific programs, students should explore and achieve core competencies associated with a variety of occupations. Introduction to Occupations must be designed as a transitional program for students who have completed the required courses in Home and Career Skills and Introduction to Technology and are preparing to enter the specialized occupational education programs in grades 11 and 12. The two major purposes of the Introduction to Occupations course are for the student to develop transferable skills that can be used in later work or home responsibilities and to investigate occupational interests and abilities. The program must assist all potential occupational education students to:

- apply and relate the influence of economic concepts to the job market and individual standards of living,
- assess personal skills and talents and relate them to employment preferences,
- develop personal goals for education, training and future employment,
- identify personal and financial resources, and
- relate resources to needs, wants, goals and personal and career fulfillment.

In addition to exploring several introductory "modules" of beginning

occupational education courses associated with technology, health, trade, business, marketing and agriculture occupations, curriculum an instruction must introduce the student to the realities of the workin world which will help them to make future choices concerning work whi in later years are not easily reversed.

In addition, courses such as **Applied Math, Applied Physics and Applie Communication** must be available to all students.

Job Specific Occupational Education Programs, Grades 11 and 12

In Nevada, Job-Specific Occupational Education programs must be desig to address the current and future requirements of Business and Indust as well as the requirements for advanced education and training available in either Nevada's community college system or universities

Business and industry, in partnership with the schools, must determin the duties, tasks and performance levels associated with specific occupational employment requirements. These must include the academi employability (decision-making, problem-solving, cooperation, interpersonal relationships) and technical skills associated with eac specific occupation offered. In addition, students completing the ri recommended by business and industry must be identified with a certificate of completion on which the "competencies" achieved are declared. Occupational Education programs achieving visible accountability must generate the support and partnership of the industries served as well as an employable and productive worker.

If the 65th Session of the Nevada Legislature were to support the guarant

of the excess cost for the operation and improvement of Occupational Education programs, grades 9-12 (Job Specific), an appropriation would be needed:

Program Year, 1989-90	$8,792,559
Program Year, 1990-91	$8,792,559

SUMMARY

This recommendation of the Department of Education is directed to four grade levels and programs, titled and described as follows:

	FY 90	FY 91
1. Home and Career Skills: Grades 7 and 8	-0-	-0-
2. Introduction to Technology: Grades 7 and 8	$ 300,000	$ 300,000
3. Career and Occupational Guidance: Grades 7-12	$ 876,000	$1,274,500
4. Occupational Education Programs: Grades 9-12	$8,792,559	$8,792,559

a. Introduction to Occupations

b. Job-Specific Occupational Education Programs

APPENDIX B

Statewide Comparative Costs Study Between Occupational Education and Academic Education, Grades 9-12 In Nevada, 1987

STATEWIDE COMPARATIVE COSTS STUDY BETWEEN OCCUPATIONAL AND ACADEMIC EDUCATION, GRADES 9-12 IN NEVADA, 1987

by

Charles A. Stamps, PhD

EUGENE T. PASLOV
Superintendent of Public Instruction

MARCIA R. REARDON
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Associate Superintendent

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Major Findings

- When calculating the costs of teacher's salary, consumable supplies, equipment, and maintenance and repair, it costs Nevada fifty-two percent more per student to provide these educational services to the occupational student than it does to the academic student.
- Occupational education has a 12:1 student/teacher ratio compared to 17:1 for academic education.
- Nevada school districts' teachers' salaries average $2,197.23 per student for occupational education compared to $1,590.86 for academic education.
- As a statewide average Nevada spends $200.49 yearly on consumable supplies for each occupational education student while it spends $70.16 for each academic student.
- Occupational education equipment costs $145.88 per student on the average, yearly, compared to $32.45 per academic education student.
- Yearly, the statewide average expenditure, per student, on maintenance and repair for occupational education is $87.89 compared to $43.00 for academic education.

Abstract

A primary purpose of this study was to compare per-student costs betwee occupational and academic education on a statewide basis in Nevada. Using selected variables, data were collected using mailed survey instruments. Costs were calculated and the data analyzed revealed that it does cost the state of Nevada more to provide educational services t the occupational student when compared to the cost of providing these same services to the academic educational student. A differential funding formula is provided to illustrate the per-student costs using the existing Nevada Distributive School Fund. Recommendations include increasing the Distributive School Fund for the purposes of meeting these differential costs in a consistent and equitable manner. Follow up impact studies to verify the effectiveness of the recommended formul are also suggested.

Acknowledgements

The Nevada Department of Education appreciates the time and effort that the school district administrators devoted to researching comparative costs and their supplying these data within a very short timeline.

Special thanks to Ward Gubler, Director, Secondary Education-Vocational High Schools and Occupational Education Program, Clark County School District, for his development of Definitions to be Used When Completing the Occupational Education/General Education Cost-Comparison survey, and to Dr. Marshall Darnell, Director of Special Instructional Projects, Clark County School District, for his providing the Department with an in-depth, detailed cost analysis for each category under study by the individual school and districtwide.

The Department also gives special recognition to Bert Elliott, Assistant Superintendent, Elko County School District, for his assisting the Coordinator of the Occupational Research Unit in the development of the survey instrument.

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Introduction

Occupational educators, school administrators, and other public school personnel who are involved in school budgets have theorized that there are added costs to providing educational services to the occupational education student as compared to that of the academic student, grades 9-12. To test that theory, the Planning, Research, and Evaluation Branch of the Nevada Department of Education examined the comparative costs from the sixteen Nevada school districts (Esmeralda has no secondary school), Nevada Girls' Training Center, and Nevada Youth Training Center.

A study done in 1984 by Reardon, Added Cost Reimbursement for Vocational Education Programs in Comprehensive High Schools and Area Vocational Centers in Nevada - A Feasibility Study, identified selected variables which contribute to these differential costs. Additionally, information collected from the Western Regional States, Oregon, Washington, New York, Georgia, and West Virginia in December, 1986, by the Occupational Research Unit of the Nevada Department of Education indicated agreement with the use of the variables previously identified in the Reardon study.

In order to draw accurate conclusions based upon information about Nevada schools, this study gathered cost comparisons between occupational education and academic education, grades 9-12. The variables which were used have been found to be appropriate based upon previous work and regional comparisons. These consisted of the following:

a. student/teacher ratio

b. teacher's salary per student

c. consumable supplies

d. equipment

e. facilities

f. maintenance and repair

Each of these costs was calculated on a cost-per student basis.

Methodology

In January 1987, superintendents and occupational education directors from sixteen Nevada school districts, Nevada Girls' Training Center, an Nevada Youth Training Center were requested to supply the following information:

a. total unduplicated enrollments in occupational and academic education

b. total number of teachers in occupational and academic education

c. total salaries for occupational and academic instructional staff; and

d. the yearly costs for supplies, equipment, maintenance and repair, facilities, and miscellaneous expenses for grades 9-12.

Figure 1 illustrates a copy of the cover letter and Figures 2 and 2a illustrate a copy of the survey instrument which were mailed to all school district occupational education directors, superintendents or principals with a request that they be used when reporting the comparative costs. Clark County School District developed the Definitions To Be Used When Completing the Occupational

Education/General Education Cost-Comparison Survey for gathering the Cost/Comparative Study data (Appendix A). The Occupational Research Unit developed the formula for determining unduplicated enrollment count. This is identified in Appendix B.

EUGENE T. PASLOV
Superintendent of
Public Instruction

STATE OF NEVADA

Capitol Complex
Carson City, Nevada 89710

DEPARTMENT OF EDUCATION

January 8, 1987

The State Department of Education will seek legislative financial support for the added costs for providing educational services for the occupational education student during the 1987 session. Among the factors that contribute to these added costs are student/teacher ratio, teacher salary per student, consumable supplies, maintenance and repair, equipment and facilities.

The Department wishes to provide the legislature with cost comparisons of educating the general or academic student with the costs for educating the occupational education students, grades 9-12, for each of Nevada's secondary school districts. Would you, therefore, complete the attached questionnaire and submit it to Dr. Charles Stamps, Coordinator, Occupational Research Unit, State Department of Education, no later than February 1, 1987, so that I can prepare a statewide cost summary of these comparative costs for presentation to the legislature?

Please attempt to answer all questions on the questionnaire to provide information on all high schools as well as district wide information. The more evidence that we can provide the legislature on comparative costs, the stronger our case becomes in requesting funding.

If your school district has additional costs that are not identified on the questionnaire such as extended contracts, separate facilities, transportation to and from the school to the worksites and separate telephone lines for the cooperative occupational education teacher, please list these costs.

If you have any difficulty in providing the requested data, please call me at 885-3104.

Sincerely,

Marcia R. Reardon
Deputy Superintendent

/sb
attachments

pc: Dr. Kevin Crowe
Dr. Charles Stamps

An Equal Opportunity Agency

Cover Letter Mailed With Survey Instrument

Figure 1.

_____ County School District
(Name)
Cost Comparisons Between Occupational Education and
General Education, Grades 9-12
January 1987

DEFINITIONS

PLEASE USE DATA FROM 1986-87 SCHOOL YEAR

Full-time teachers--
only full-time teachers are reported on the survey. Full-time teachers are defined as those teachers of five or more class periods per day.

Teacher's Program Identification (Occupational Education or General Education Program)--
is determined by his/her teaching assignment. Teaching three or more class periods in occupational education generates an occupational education assignment; teaching three or more class periods in general education generates a general education assignment.

Occupational education students--
are students enrolled in Part A (job specific) classes and/or Part B classes (occupational general or exploratory) classes.

General education students--
are students enrolled in classes other than Part A (job specific) occupational education and/or Part B (occupational general or exploratory) classes.

Student enrollment--
the student enrollment (total students) should be calculated to reflect enrollment in one-hour periods of time. i.e. 15 students enrolled in a two-hour block (like auto shop) should be reported as 30 students since this converts to two one-hour classes.

PLEASE COMPLETE THE FOLLOWING

_____ HIGH SCHOOL
(Name)

Occupational Educational Program		General Education Program	
Total Occ Ed Students =	_____	Total Gen Ed Students =	_____
Total Occ Ed Teachers =	_____	Total Gen Ed Teachers =	_____
Total Salaries = for all Occ Tchrs =	$_____	Total Salaries = for all Gen Tchrs =	$_____
Consumable Supplies =	$_____	Consumable Supplies =	$_____
Equipment =	$_____	Equipment =	$_____
Maint/Repair =	$_____	Maint/Repair =	$_____
Facilities =	$_____	Facilities =	$_____
(Other)		(Other)	
_____ =	$_____	_____ =	$_____
_____ =	$_____	_____ =	$_____
TOTAL COSTS	$_____	TOTAL COSTS	$_____

Survey Instrument
Figure 2.

_____ HIGH SCHOOL
(Name)

Occupational Education Program		General Education Program	
Total Occ Ed Students =		Total Gen Ed Students =	
Total Occ Ed Teachers =		Total Salaries =	
Total Salaries =		for all Gen Tchrs =	$
for all Occ Tchrs =	$	Consumable Supplies =	$
Consumable Supplies =	$	Equipment =	$
Equipment =	$	Maint/Repair =	$
Maint/Repair =	$	Facilities =	$
Facilities =	$	(Other)	
(Other)		_____ =	$
_____ =	$	_____ =	$
_____ =	$	TOTAL COSTS	$
TOTAL COSTS	$		

DISTRICT WIDE

Occupational Education Program		General Education Program	
Total Occ Ed Students =		Total Gen Ed Students =	
Total Occ Ed Teachers =		Total Salaries =	
Total Salaries =		for all Gen Tchrs =	$
for all Occ Tchrs =	$	Consumable Supplies =	$
Consumable Supplies =	$	Equipment =	$
Equipment =	$	Maint/Repair =	$
Maint/Repair =	$	Facilities =	$
Facilities =	$	(Other)	
(Other)		_____ =	$
_____ =	$	_____ =	$
_____ =	$	TOTAL COSTS	$
TOTAL COSTS	$		

Survey Instrument (continued)

Figure 2a

Costs were calculated on the 1985-86 or the 1986-87 school year, depending upon which year the district felt most accurately reflected normal costs. Monies provided by SB 121 in 1985-86 for occupational education equipment were excluded from equipment costs. Costs for providing teachers with extended contracts for summer employment or extra responsibilities were calculated as part of the teachers' salaries for both the occupational education teacher and the academic teacher. Data were checked for accuracy as they were received from the school districts. When appropriate, district personnel were contacted for additional verification.

After calculating the student/teacher ratio and the average teacher's salary, the Occupational Research Unit used the above information to determine per-student costs on the following variables:

a. teacher's salary
b. consumable supplies
c. equipment
d. maintenance and repair
e. facilities
f. miscellaneous expenses

Results

Statewide averages portray that there is a smaller student/teacher ratio in occupational education than there is in academic education. Cost-per-student expenditures on teachers' salaries, consumable supplies, equipment, and maintenance and repairs for occupational education exceed those of the academic student. The average statewide per-student-cost

for occupational education is $2,631.49 while the average statewide per-student-cost for academic education is $1,736.47 for these four expenses. Based on the data in this study, there is a rounded percentage difference of fifty-two (51.54). This means that it costs fifty-two percent more to provide these services to the individual occupational education student than it does to provide these services to the individual academic student, grades 9-12.

Costs of facilities and miscellaneous expenses were not calculated in the cost-per-student analyses since there were major differences among the school districts on what constituted a cost when reporting expenditures for facilities and miscellaneous expenses. Facility expenses were reported as "not able to separate costs of occupational from academic," costs based on square footage in existing buildings times per square foot and replacement costs amortized over twenty years, modifications or rehabilitation, new construction projects, removal of asbestos, and construction of new facilities. Miscellaneous expenses were reported as including costs for textbooks, "miscellaneous," audio visual materials, transportation, extended contracts, modems, telephones, power and lights, "inventory," administrative support costs, clerical support, Public Employment Retirement System (PERS), and State Industrial Insurance System (SIIS). Because of the lack of consistency in reporting these data, the Department decided to exclude the costs for facilities and miscellaneous expenses from the study.

Lincoln County School District included comparison costs at the Nevada Girls' Training Center in its district-wide report. The data supplied

by the Nevada Youth Training Center included only enrollments, faculty, and faculty salaries; and the principal said that he could not separate out other costs. As a result, the Nevada Youth Training Center data were excluded from this study.

Analyzation of Data

Student/Teacher Ratio. The statewide unweighted average student/teacher ratio by class period for occupational education was twelve to one (12:1) while it was seventeen to one (17:1) for academic education. Table 1 shows that the statewide occupational education teaching load as a percent of the academic statewide teaching load was seventy-four (74). Thus, on the average, statewide, occupational education teachers teach twenty-six (26) percent fewer students, hourly, than do academic teachers.

Teachers' salaries. As a statewide average, yearly, it costs Nevada school districts $2,197.23 to provide the individual student occupational education instruction while it costs $1,590.86 to provide the individual student academic education, grades 9-12. As shown in Figure 3, there is a $606.37 difference between the average salary cost of the occupational education teacher and that of the academic teacher; or it costs thirty-eight (38) percent more in salary to provide the individual student instruction in occupational education than it costs for academic education, grades 9-12.

Table I

Comparative Costs Survey Returns From Nevada School Districts, Grades 9-12, February, 1987

School	Average Student/Teacher Ratio by Class Period: Occupational	Academic	Occupational Teaching Load As Percent of Academic Teaching Load
Carson City	8:1	19:1	42
Churchill	16:1	23:1	69
Clark	19:1	24:1	79
Douglas	18:1	21:1	85
Elko	6:1	12:1	50
Eureka	6:1	12:1	50
Humboldt	12:1	16:1	75
Lander	9:1	16:1	56
Lincoln*	10:1	14:1	71
Lyon	14:1	14:1	100
Mineral	11:1	15:1	73
Nye	9:1	18:1	50
Pershing	12:1	14:1	85
Storey	12:1	9:1	133
Washoe	19:1	23:1	82
White Pine	16:1	19:1	84
AVERAGE STD/TCH RATIOS BY CLASS PERIODS	12:1	17:1	74

All averages are unweighted averages

*Lincoln School District Data include Nevada Girls' Training Center

Consumable Supplies. Figure 4 indicates that, yearly, Nevada spends, as a statewide average, $200.49 on consumable supplies for each occupational education student while it spends $70.16 for each academic education student, grades 9-12. This $130.33 difference represents a one hundred eighty-six (186) percent added cost for the occupational education student over the academic student.

Equipment. The Nevada statewide yearly average expenditure, per student, on occupational education equipment is $145.88 as compared to $32.45 for equipment for the academic student, grades 9-12. This $113.43 difference, as portrayed in Figure 4 represents a three hundred fifty percent added cost for the occupational education student over the academic student.

Maintenance and Repairs. Yearly, the statewide average expenditure, per student, on maintenance and repair for occupational education is $87.89 compared to $43.00 for academic education. Figure 4 shows that this $44.89 difference represents a one hundred four percent added cost for the occupational education student over the academic student.

Analyses of Expenditures Aggregated at the School District Level

For the purposes of this report cost differentials were aggregated at the per-student level. Supportive district-wide information which may be of assistance to the reader is illustrated in Appendices C-I. These include data on Nevada's sixteen school districts:

a. Comparative Enrollments (Grades 9-12) in Occupational Education and Academic Education;

b. Comparative Number of Occupational Education Teachers and Academic Education Teachers (Grades 9-12);

Figure 3.

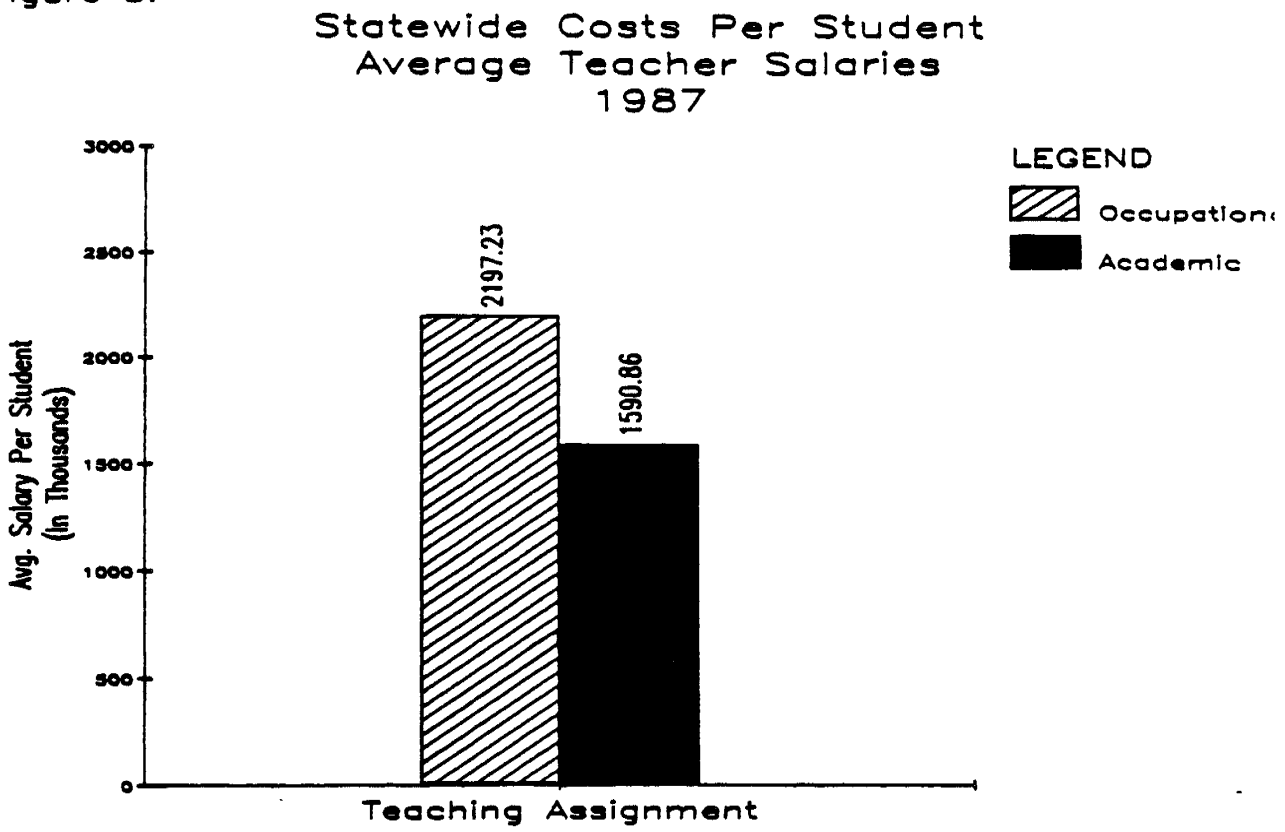
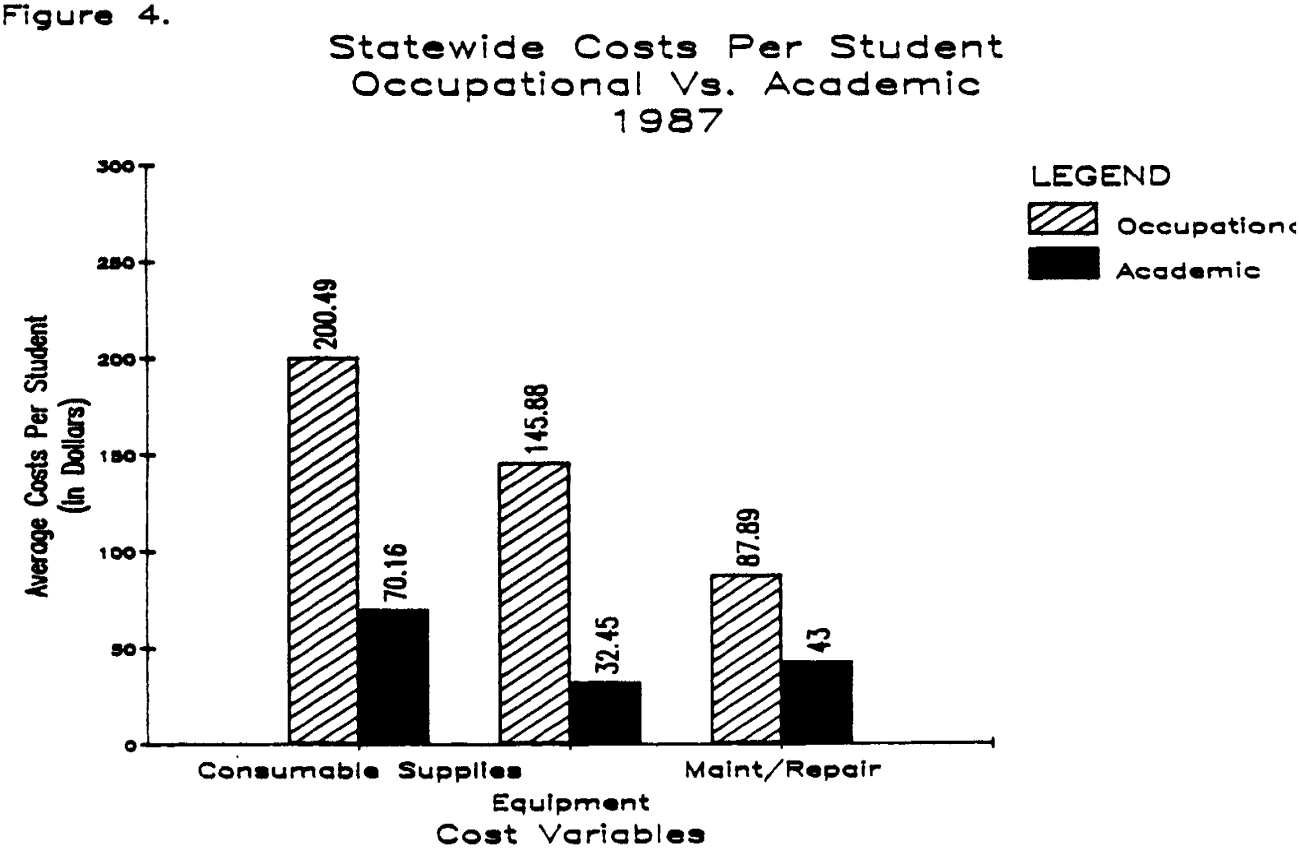


Figure 4.



c. Average Teacher's Salary per Student of Occupational Education Compared with Academic Education Teacher's Salary per student (grades 9-12);

d. Comparative Average Salaries of Occupational Education Teachers with Academic Education Teachers (grades 9-12);

e. Comparative Expenditures on Consumable Supplies;

f. Comparative Expenditures on Equipment; and

g. Comparative Expenditures on Maintenance and Repair.

Supportive data on cost per student are illustrated in Appendices J-M. These data include:

a. Average Teacher's Salary Per Student

b. Cost of Consumable Supplies Per Student,

c. Cost of Equipment Per Student, and

d. Cost of Maintenance and Repair Per Student.

Conclusions and Recommendations

The primary goal of this study was to use six variables to compare per-student costs between occupational education and academic education, grades 9-12. Based upon the findings, recommendations could be made to the Nevada legislature.

Although previous studies conducted in Nevada have identified the variables to be considered when analyzing cost differences for providing educational services for secondary education students, grades 9-12, between occupational education and academic education, there have been no previous examinations of dollar costs attributable to these variables on a statewide basis. The data included in this report, however,

clearly identifies that there are added costs to be considered when funding occupational education a per-student basis.

Data analyses revealed that it costs the state of Nevada more to provid educational services to the occupational education student than it does for the academic student, grades 9-12, on a cost-per-student basis.

With the information presented in this study, there is valid support fo the development of a stable funding formula for providing additional funding for Nevada's occupational education programs, grades 9-12. The results indicate that a per-student-cost appropriation should consider an additional fifty-two percent when funding occupational education enrollments. Table 2 provides a summary of the following per-student costs:

a. average teacher's salary
b. consumable supplies
c. equipment
d. maintenance and repair
e. the difference in dollar cost between occupational education an academic education, and
f. the percent difference.

Table 2

Summary of Per Student Costs Differentials

	Occupational	Academic
Average Teacher's Salary	$2,197.23	$1,590.86
Cost of Consumable Supplies	200.49	70.16
Cost of Equipment	145.88	32.45
Cost of Maintenance and Repair	87.89	43.00
TOTAL PER-STUDENT COST	$2,631.00	$1,736.47
DIFFERENCE IN DOLLARS	+895.02	
PERCENTAGE DIFFERENCE	+52 percent	

Currently, each Nevada school district is provided an average of $2,353 of the Distributive School Fund for each student enrolled in its district. Since the individual school district appropriations, using the Distributive School Fund, ranges from $2165 to $4209, Table 3 provides the basis for determining a recommended occupational education differential funding per student for each school district. Table 3 provides individual calculations, based upon a fifty-two (51.54) percen cost differential. It also includes recommended total district differential funding for its current numbers of occupational education students. Aggregated at the statewide level, these funds total $8,174,172.00.

It is recommended that this formula be validated over a biennium. If implemented, it is believed that this formula will put into place a significantly improved funding base for occupational education. An impact study should be conducted during the biennium following the funding to determine its effectiveness.

Table 3

Recommended Basic Support Funding for Nevada's Occupational Education Enrollments, Grades 9-12 (in whole dollars)

School District	1986-87 Basic Support Per Pupil	Trigger	Basic Support Guaranteed Per Pupil	Percent Additional Cost Per Pupil	Recommended Differential Funding Per Student	District Occupational Education Enrollment	Recommended Occup Educ Differential Funding Districtwide
Carson	$ 2,469	52	$ 2,521	52	$ 1,311	235	$ 308,085.00
Churchill	2,647	54	2,701	52	1,405	186	261,330.00
Clark	2,230	48	2,279	52	1,185	3,821	4,527,885.00
Douglas	2,253	55	2,308	52	1,200	180	216,000.00
Elko	2,588	56	2,644	52	1,375	246	338,250.00
Eureka	4,209	92	4,301	52	2,237	18	40,265.00
Humboldt	2,642	59	2,701	52	1,405	132	185,460.00
Lander	2,811	59	2,870	52	1,492	55	82,060.00
Lincoln	4,035	77	4,112	52	2,138	110	235,180.00
Lyon	2,803	56	2,859	52	1,487	169	251,303.00
Mineral	2,945	62	3,007	52	1,564	53	82,892.00
Nye	2,571	58	2,629	52	1,367	150	205,050.00
Pershing	2,755	61	2,817	52	1,496	49	73,304.00
Storey	3,772	81	3,853	52	2,004	14	28,056.00
Washoe	2,165	48	2,214	52	1,151	1,071	1,232,721.00
White Pine	3,240	59	3,299	52	1,715	62	106,330.00
TOTAL RECOMMENDED DIFFERENTIAL FUNDING FOR OCCUPATIONAL EDUCATION							$8,174,172.00

REFERENCES

REFERENCES

Reardon, Marcia R. (1984). [Added Cost Reimbursement for Vocational Education Programs in Comprehensive High Schools and Area Vocational Centers in Nevada--A Feasibility Study].

Stamps, Charles A. (1986). [Factors that Contribute to the Added Costs for Providing Educational Services to the Occupational Education Student]. Unpublished raw data.

APPENDICES

Appendix A

Definitions to be Used When Completing the
Occupational Education/General Education
Cost-Comparison Survey

1- TOTAL OCCUPATIONAL EDUCATION STUDENTS - count all students, grades 9-12, who are enrolled in a job-specific occupational course or a course which is general, career, or exploratory. Count special education students who are enrolled in (mainstreamed) occupational education programs. Do not count special education students in self-contained classes or resource rooms. (Use your latest class count).

1-a TOTAL GENERAL EDUCATION STUDENTS - Count all students, grades 9-12, enrolled in all other programs. Count special education students enrolled in (mainstreamed) general edcuation programs. Do not count special education students in self-contained classes or resource rooms. (Use your latest class count).

2- TOTAL OCCUPATIONAL EDUCATION TEACHERS - Count all teachers who teach three (3) or more classes in any of the job-specific or general occupational program areas. Do not count special education teachers.

2-a TOTAL GENERAL EDUCATION TEACHERS - Count all teachers who teach three (3) or more classes in all other program areas. Do not count special education teachers.

3- TOTAL OCCUPATIONAL EDUCATION CLASSES - Count all job-specific or exploratory occupational classes. Do not count special education classes.

3-a TOTAL GENERAL EDUCATION CLASSES - Count all general education classes. Do not count special education classes.

4- TOTAL SALARIES FOR ALL OCCUPATIONAL EDUCATION TEACHERS - These data will be provided by the Personnel Services Division.

4-a TOTAL SALARIES FOR ALL GENERAL EDUCATION TEACHERS - These data will be provided by the Personnel Services Division.

5- CONSUMABLE SUPPLIES - OCCUPATIONAL EDUCATION - Using data from your school's 1986-87 budget allocation, calculate the cost of consumable supplies for occupational programs or classes. As a general rule, consumable supplies would include most items purchased under expense class 2910.

5-a CONSUMABLE SUPPLIES - GENERAL EDUCATION - Using data from your school's 1986-87 budget allocation, calculate the cost of consumable supplies for general education classes. As a general rule, consumable supplies would include most items purchased under expense class 2910.

6- EQUIPMENT - OCCUPATIONAL EDUCATION - Using data from your school's 1986-87 budget allocation, calculate the cost of equipment purchased for occupational education programs or classes.

6-a EQUIPMENT - GENERAL EDUCATION - Using data from your school's 1986-87 budget allocation, calculate the cost of equipment purchased for general education programs or classes.

7- EQUIPMENT MAINTENANCE/REPAIR - OCCUPATIONAL EDUCATION - These data will be provided by the Maintenance and Operations Department.

7-a EQUIPMENT MAINTENANCE/REPAIR - GENERAL EDUCATION - These data will be provided by the Maintenance and Operations Department.

8- FACILITIES - OCCUPATIONAL EDUCATION - Using calendar year 1986, prepare a list of facility modifications/rehabilitation, and new construction projects by job description for occupational programs or classes. For example, electrical work in room 207 for electronic typewriters. The Facilities Division will provide the cost of the project after you have returned the survey with your attached facility list to the Department of Occupational Education.

8-a FACILITIES - GENERAL EDUCATION - Using calendar year 1986, prepare a list of facility modifications/rehabilitation, and new construction projects by job description for general education programs or classes. For example, changing ceiling tile in a social studies' classroom or rehabilitation of a science lab facility. The Facilities Division will provide the cost of the project after you have returned the survey with your attached facility list to the Department of Occupational Education.

9- OTHER COST FACTORS - OCCUPATIONAL EDUCATION - Please list any other factor and its cost which would help establish the relative cost comparison for occupational education.

9-a OTHER COST FACTORS - GENERAL EDUCATION - Please list any other factor and its cost which would help establish the relative cost comparison for general education.

Appendix B

Suggested Procedures to be Used When Determining Occupational and Academic Education Unduplicated Enrollments Count on the Cost-Comparison Study

Method One:

We will use only four student's schedules in this example: (Part-time faculty could be figured, using this model)

Sally's Schedule

1st period Typing
2nd period English
3rd period Shorthand
4th period Math
5th period Science
6th period History
2 occup ed classes
4 academic classes
2/6 = .33 occ ed std
4/6 = .67 acad std

Joe's Schedule

1st period Typing
2nd period Auto Shop
3rd period Auto Shop
4th period Math
5th period History
6th period Band
3 occup ed classes
3 academic classes
3/6 = .50 occ ed std
3/6 = .50 acad std

Pete's Schedule

1st period Agri I
2nd period English
3rd period Math
4th period Ind Arts
5th period Typing
6th period Science
3 occ ed classes
3 acad classes
3/6 = .50 occ ed std
3/6 = .50 acad ed std

Sue's Schedule

1st period Science
2nd period Home Econ
3rd period English
4th period Math
5th period French
6th period Music
1 occ ed class
5 acad ed classes
1/6 = .17 occ ed std
5/6 = .83 acad std

To figure enrollment in each of the areas of study, add the individual percentages as derived above:

Occup ed enrollment

.33 (Sally)
.50 (Joe)
.50 (Pete)
.17 (Sue)
1.50 Total occ ed enrollment

Academic enrollment

.67 (Sally)
.50 (Joe)
.50 (Pete)
.83 (Sue)
2.50 Total Acad ed enrollment

Method Two

Collect class enrollment sheets for all classes taught in the school. Separate occupational education classes from the academic classes. Tally enrollments in each set. You will have duplicated total occupational education enrollments and duplicated total academic enrollments at the school. Add the individual school enrollments to arrive at the district-wide enrollments. Divide the individual totals by the number of class periods per day to get unduplicated count.

Appendix C

Comparative Enrollments (Grades 9-12) in Occupational Education and Academic Education by School Districts, February 1987

School District	Occupational	Academic
Carson City	235	1,153
Churchill	186	685
Clark	3,821	23,033
Douglas	180	1,117
Elko	246	1,077
Eureka	18	71
Humboldt	132	436
Lander	55	212
Lincoln	110	289
Lyon	169	767
Mineral	53	263
Nye	150	640
Pershing	49	167
Storey	14	103
Washoe	1,071	9,800
White Pine	62	346
TOTALS	6,551	40,159
AVERAGE DISTRICT ENROLLMENT	409	2,510

Appendix D

Comparative Number of Occupational Education Teachers and Academic Education Teachers (Grades 9-12) by School District February, 1987

School District	Occupational	Academic
Carson City	13	62
Churchill	12	31
Clark	199	968
Douglas	10	53
Elko	25	86
Eureka	3	6
Humboldt	11	28
Lander	6	13
Lincoln	11	20
Lyon	12	54
Mineral	5	17
Nye	16	36
Pershing	4	12
Storey	1.2	11
Washoe	57	418
White Pine	4	18
TOTALS	389.2	1,833
STATEWIDE DISTRICT AVERAGE	24	115

Appendix E

Average Teacher's Salary per Student of Occupational Education
Compared with Academic Education (Grades 9 - 12)
February, 1987

School District	OCCUPATIONAL Students	OCCUPATIONAL Total Teacher's Salary	OCCUPATIONAL Average Salary Per Student	ACADEMIC Students	ACADEMIC Total Teacher's Salary	ACADEMIC Average Salary Per Student
Carson City	235	$ 324,599.00	$ 1,381.27	1,152	$ 1,734,314.00	$ 1,504.17
Churchill	186	346,141.00	2,329.86	685	719,255.00	1,557.19
Clark	3,821	6,019,672.00	1,575.41	23,033	28,292,100.00	1,228.32
Douglas	180	271,330.00	1,507.39	1,117	1,695,344.00	1,517.76
Elko	246	690,900.00	2,808.54	1,077	1,861,475.00	1,728.39
Eureka	18	58,150.00	3,230.55	71	140,996.00	1,985.85
Humboldt	112	283,133.00	2,144.94	374	687,854.00	1,577.64
Lander	55	140,085.00	2,547.00	212	376,960.00	1,778.11
Lincoln	110	104,731.00	2,199.03	289	243,242.00	1,703.19
Lyon	169	364,677.00	2,157.65	767	1,247,303.00	1,626.20
Mineral	53	125,803.00	2,373.64	253	367,575.00	1,397.62
Nye	150	166,571.00	2,689.22	640	576,555.00	1,331.37
Pershing	49	114,035.00	2,327.24	167	334,464.00	2,002.77
Storey	14	35,000.00	2,714.29	103	210,000.00	2,038.83
Washoe	1,071	1,580,675.00	1,475.88	9,800	11,459,345.00	1,169.32
White Pine	62	111,261.00	1,794.53	346	452,257.00	1,307.10
TOTALS	6,531	10,739,763.00	35,155.62	40,097	50,399,039.00	25,453.83
STATEWIDE AVERAGE TEACHER'S SALARY PER STUDENT			2,197.23			1,590.86

Appendix F

Comparative Average Salaries of Occupational Education Teachers
with Academic Education Teachers (grades 9-12)
by School Districts, February, 1987

School District	OCCUPATIONAL Tchrs	Total Salary	Average Salary	ACADEMIC Tchrs	Total Salary	Aver Sala
Carson City	13	$ 324,599.00	$24,969.00	62	$1,734,314.00	$27,97
Churchill	10	346,141.00	34,547.33	22	719,255.00	23,20
Clark	199	6,019,672.00	30,249.60	968	28,292,100.00	29,22
Douglas	180	271,330.00	27,133.00	53	1,695,344.00	31,98
Elko	25	690,900.00	27,636.00	86	1,861,475.00	21,64
Eureka	3	58,150.00	19,383.00	6	140,996.00	23,49
Humboldt	11	283,133.00	25,739.36	28	687,854.00	24,56
Lander	6	140,085.00	23,348.00	13	376,960.00	28,99
Lincoln	5	104,731.00	21,990.00	9	243,242.00	24,61
Lyon	12	354,677.00	30,390.00	54	1,247,303.00	23,09
Mineral	5	125,803.00	25,161.00	17	367,575.00	21,62
Nye	5	156,971.00	25,211.50	14	576,555.00	23,66
Pershing	4	114,039.00	29,909.75	12	334,464.00	27,87
Storey	1.2	38,000.00	31,666.66	11	210,000.00	19,09
Washoe	57	1,580,675.00	27,731.00	418	11,459,345.00	27,41
White Pine	4	111,251.00	27,915.25	18	452,257.00	25,12
TOTALS	540.2	10,739,763.00	431,479.45	1,791	50,399,039.00	403,59
STATEWIDE AVERAGE SALARY			26,95			25,22

Appendix G

Comparative Expenditures on Consumable Supplies by School District

School District	Occupational	Academic
Carson City	$ 32,622.00	$ 50,153.00
Churchill	22,712.00	43,453.00
Clark	452,522.00	527,329.00
Douglas	23,000.00	24,000.00
Elko	47,405.00	61,566.00
Eureka	7,520.00	9,031.00
Humboldt	24,287.00	25,000.00
Lander	6,001.00	14,311.00
Lincoln	19,643.00	34,947.00
Lyon	40,150.00	38,250.00
Mineral	9,059.00	21,230.00
Nye	9,887.00	41,990.00
Pershing	20,100.00	29,000.00
Storey	8,000.00	16,000.00
Washoe	96,945.00	344,084.00
White Pine	16,900.00	18,000.00
TOTALS	$836,753.00	$1,298,344.00
AVERAGE STATEWIDE COMPARATIVE COSTS OF CONSUMABLE SUPPLIES	52,291.06	81,146.50

Appendix H

Comparative Expenditures of Equipment by School District

School District	Occupational	Academic
Carson City	$ 17,385.00	$ 15,599.00
Churchill	4,038.00	25,044.00
Clark	89,158.00	187,000.00
Douglas	4,000.00	8,300.00
Elko	4,725.00	25,500.00
Eureka	15,032.42	6,008.00
Humboldt	13,805.00	15,000.00
Lander	1,684.00	3,315.00
Lincoln	40,754.00	9,221.00
Lyon	8,935.00	11,800.00
Mineral	7,750.00	2,475.00
Nye	24,445.00	16,088.00
Pershing	5,000.00	12,000.00
Storey	5,000.00	10,000.00
Washoe	12,520.00	323,793.00
White Pine	0.00	4,000.00
TOTALS	$254,231.42	$675,143.00
AVERAGE STATEWIDE COMPARATIVE COSTS OF EQUIPMENT	15,889.46	42,196.44

Appendix I

Comparative Expenditures on Maintenance and Repair by School District

School District	Occupational	Academic
Carson City	$ 27,501.00	$ 13,975.00
Churchill	5,625.00	11,375.00
Clark*	257,638.00	790,645.00
Douglas	10,000.00	9,000.00
Elko	12,924.00	2,794.00
Eureka	1,003.00	1,230.00
Humboldt	9,786.00	2,500.00
Lander	3,500.00	2,434.00
Lincoln	5,217.00	2,910.00
Lyon	15,400.00	18,600.00
Mineral	NA	NA
Nye**	62,340.00	257,503.00
Pershing	1,500.00	5,500.00
Storey	1,700.00	1,000.00
Washoe	NA	NA
White Pine	500.00	5,000.00
TOTALS	$414,634.00	$1,124,466.00
AVERAGE STATEWIDE COMPARATIVE COSTS OF MAINTENANCE AND REPAIR	29,616.71	80,319.00

*Clark County School District did extensive removal of asbestos and retrofitting for specific schools

**Nye School District built new facilities and/or did extensive maintenance and repair for the 1986-87 school year.

Appendix J

Average Teacher's Salary Per Student

School District	Occupational	Academic
Carson City	$ 1,381.27	$ 1,504.17
Churchill	2,228.86	1,557.19
Clark	1,575.41	1,228.32
Douglas	1,507.38	1,517.76
Elko	2,808.54	1,728.39
Eureka	3,230.55	1,985.85
Humboldt	2,144.94	1,577.64
Lander	2,547.00	1,778.11
Lincoln	2,199.03	1,703.19
Lyon	2,157.85	1,626.20
Mineral	2,373.64	1,397.62
Nye	2,689.22	1,331.37
Pershing	2,327.24	2,002.77
Storey	2,714.28	2,038.83
Washoe	1,475.88	1,169.32
White Pine	1,794.53	1,307.10
TOTALS	$35,155.62	$25,453.83
STATEWIDE AVERAGE OF TCH'S SALARY PER STUDENT	2,197.23	1,590.86

Appendix K

Cost of Consumable Supplies Per Student

School District	Occupational	Academic
Carson City	$ 138.81	$ 43.49
Churchill	122.10	63.43
Clark	118.43	22.89
Douglas	127.77	21.48
Elko	192.70	57.16
Eureka	417.77	127.19
Humboldt	184.00	57.33
Lander	109.10	67.50
Lincoln	178.57	120.92
Lyon	237.57	49.86
Mineral	170.92	80.72
Nye	65.91	65.60
Pershing	410.20	173.65
Storey	571.42	155.33
Washoe	90.51	34.09
White Pine	272.58	52.02
TOTALS	$3,408.36	$1,192.66
AVERAGE STATEWIDE COST OF CONSUMABLE SUPPLIES PER STUDENT	200.49	70.16

Appendix L

Cost of Equipment Per Student

School District	Occupational	Academic
Carson City	$ 73.97	$ 13.4
Churchill	21.70	36.5
Clark	23.33	8.1
Douglas	22.22	7.4
Elko	19.20	23.6
Eureka	835.13	84.6
Humboldt	104.58	34.4
Lander	30.61	15.6
Lincoln	370.49	31.9
Lyon	52.86	15.3
Mineral	146.22	9.4
Nye	162.96	25.1
Pershing	102.04	71.8
Storey	357.14	97.0
Washoe	11.69	33.0
White Pine	0.00	11.5
TOTALS	$2,334.14	$519.2
AVERAGE STATEWIDE COST OF EQUIPMENT PER STUDENT	145.88	32.4

Appendix M

Cost of Maintenance and Repair Per Student

School District	Occupational	Academic
Carson City	$ 117.02	$ 12.12
Churchill	30.24	16.60
Clark	67.42	34.32
Douglas	55.55	8.05
Elko	52.53	2.59
Eureka	55.72	17.32
Humboldt	74.13	5.73
Lander	63.63	11.48
Lincoln	47.42	10.06
Lyon	91.12	24.25
Mineral	NA	NA
Nye*	415.60	402.34
Pershing	30.61	32.93
Storey	121.42	9.70
Washoe	NA	NA
White Pine	8.06	14.45
TOTALS	$1,230.47	$601.94
AVERAGE STATEWIDE COST OF MAINTENANCE AND REPAIR PER STUDENT	87.89	43.00

*Nye School District built new facilities and/or did major maintenance and repair for the 1986-87 school year.

APPENDIX C

Nevada Administrative Code 389.672, "Academic credit for occupational courses of study"

389.672 Academic credit for occupational courses of study.

1. A board of trustees may allow a pupil to earn, towards the units necessary for graduation from high school, two units of the credit required in English, one unit required in mathematics and one unit required in science if he is enrolled in one of the following occupational courses of study and that course of study includes as part of its curriculum the curriculum of the required course:

(a) Agriculture.

(b) Business.

(c) Occupational education in cooperation with a private employer.

(d) Occupations described in NAC 389.572 to 389.584, inclusive.

(e) Occupations in trade and industry described in NAC 389.586 to 389.618, inclusive.

(f) Home economics.

(g) Industrial arts.

(h) Marketing.

(i) Skills needed to obtain employment.

2. The local superintendent of schools shall appoint a committee composed of one person certified to teach in the occupational course of study and one person certified to teach in the academic area in which the credit may be earned. The committee must verify to the board of trustees that the curriculum for the occupational course of study includes the curriculum of the required course of study.

3. After verification has been received from the board of trustees, the written curriculum and title of the course of study and a statement of the academic credit to be granted must be submitted to the state board of education for approval. Academic credit may be granted for the occupational course of study or combination of courses only after the state board of education has given its approval.

4. A student who earns academic credit pursuant to this section must be notified that the approval for academic credit is designed to meet the requirements for graduation from high school and may not be accepted for academic credit by a specific postsecondary institution. A copy of the notification given to the pupil must accompany the other materials to be submitted to the state board of education for final approval.

5. A minimum number of credits must be earned in the respective academic areas, as follows:

(a) At least one credit must be earned in the academic mathematics department;

(b) At least one credit must be earned in the academic science department; and

(c) At least two credits must be earned in the academic English department.

(Added to NAC by Bd. of Education, eff. 5-4-87)

APPENDIX D

Suggested Legislation

SUMMARY--Urges local school boards to provide necessary resources for occupational education of children with special educational needs. (BDR R-264)

CONCURRENT RESOLUTION--Urging the local school boards to provide the necessary resources for occupational education of children with special educational needs.

WHEREAS, Children with special educational needs can become productive in the occupational work force when given the opportunity to learn the necessary skills; and

WHEREAS, Because of a lack of money to train teachers in occupational education, many children who have special educational needs are not receiving occupational training which would allow them to become self-supportive; and

WHEREAS, It is the responsibility of local school boards to provide programs which best meet the needs of all children; and

WHEREAS, Facilities for and instructors of occupational education are currently very limited throughout Nevada; now, therefore, be it

RESOLVED BY THE OF THE STATE OF NEVADA, THE CONCURRING, That the legislature urges the local school boards of

the State of Nevada to provide the necessary resources for the occupational education of children with special educational needs; and be it further

RESOLVED, That a copy of this resolution be prepared and transmitted by the of the to every school board in Nevada.

SUMMARY--Urges board of regents to review programs for education of teachers of occupational education and to increase availability of programs. (BDR R-265)

CONCURRENT RESOLUTION--Urging the board of regents of the University of Nevada System to review programs for the education of teachers of occupational education and to increase the availability of those programs.

WHEREAS, The majority of jobs in the future will require occupational training; and

WHEREAS, Today's educational system continues to prepare students to attend college and earn degrees for jobs which are becoming scarce; and

WHEREAS, It is critical that the educational system meet the needs of all students and prepare them to be employable; and

WHEREAS, Representatives of business and industry in Nevada have stated that the current educational system is not adequately preparing students for the available jobs; and

WHEREAS, Schools will need more teachers trained in occupational education to meet the needs of the future; now, therefore, be it

RESOLVED BY THE OF THE STATE OF NEVADA, THE CONCURRING, That this legislature urges the board of regents of the

University of Nevada System to review programs for the education of teachers of occupational education and increase the availability of these programs; and be it further

RESOLVED, That the of the prepare and transmit a copy of this resolution to the board of regents of the University of Nevada System.

SUMMARY--Urges state board of education to require that pupils be given opportunity to participate in youth organizations for occupational education. (BDR R-266)

CONCURRENT RESOLUTION--Urging the state board of education to require that pupils be given the opportunity to participate in youth organizations for occupational education.

WHEREAS, Programs in occupational education will be increasing in the future to meet the demand of today's job market; and

WHEREAS, Often in the past, pupils who entered programs in occupational education were denied participation in school organizations because the majority of those organizations were related to college preparatory classes; and

WHEREAS, Participation in interest-oriented clubs and organizations promote improvement of a pupil's self-image; and

WHEREAS, Presently there are very few clubs or organizations available to pupils who are enrolled in programs in occupational education; now, therefore, be it

RESOLVED BY THE OF THE STATE OF NEVADA, THE CONCURRING, That the Nevada legislature urges the state board of education to require that pupils be given the opportunity to participate in youth organizations or clubs for occupational education; and be it further

RESOLVED, That a copy of this resolution be prepared and transmitted forthwith by the of the to the state board of education.

SUMMARY--Urges school districts to allow academic credit for courses of occupational education and urges board of regents to accept credits. (BDR R-288)

CONCURRENT RESOLUTION--Urging the boards of trustees of local school districts to allow academic credit for courses of occupational education and urging the board of regents to allow those credits to apply toward admission to the University of Nevada System.

WHEREAS, Success in school is directly related to a pupil's desire to graduate from high school and to continue in the pursuit of a higher education; and

WHEREAS, A pupil who has a history of poor performance in academic subjects often may drop out of high school rather than be subjected to continued failure; and

WHEREAS, Pupils could be taught academic subjects if those subjects were included in occupational courses; and

WHEREAS, Provisions allowing academic credit for occupational courses of study are specified in NAC 389.672; and

WHEREAS, If the board of regents of the University of Nevada System were to allow those credits to apply toward admission to the University of Nevada, pupils would be more inclined to continue their education and would have one less obstacle to overcome; now, therefore, be it

RESOLVED BY THE OF THE STATE OF NEVADA, THE

CONCURRING, That members of the Nevada Legislature hereby urge the boards of trustees of the school districts of Nevada to allow academic credit for occupational courses of study, pursuant to NAC 389.672; and be it further

RESOLVED, That the board of regents of the University of Nevada System are urged to accept those courses for which academic credit is allowed toward the requirements for admission to the University of Nevada; and be it further

RESOLVED, That copies of this resolution be transmitted forthwith by the of the to the boards of trustees of all school districts in Nevada and to members of the board of regents of the University of Nevada System.

SUMMARY--Requires state board of education to establish course of study in occupational guidance and counseling. (BDR 34-268)

FISCAL NOTE: Effect on Local Government: No.

Effect on the State or on Industrial Insurance: Yes.

AN ACT relating to education; requiring the state board of education to establish a course of study in occupational guidance and counseling; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. NRS 388.380 is hereby amended to read as follows:

388.380 [The]

1. Except as otherwise provided in subsection 2, the board of trustees of a school district in a county whose population is 100,000 or more shall and any other board of trustees of a school district may:

[1.] *(a)* Establish and maintain occupational schools or classes giving instruction in the subjects approved by the state board for occupational education.

[2.] *(b)* Raise and expend money for the establishment and maintenance of occupational schools or classes.

2. The board of trustees of each school district shall by regulation organize a course of study in occupational guidance and counseling in accordance with the regulations adopted by the state board pursuant to section 2 of this act.

Sec. 2. Chapter 389 of NRS is hereby amended by adding thereto a new section to read as follows:

1. The state board shall, by regulation, establish a course of study in occupational guidance and counseling. The purpose of the course is to assist and support each pupil in his quest for knowledge, skills and self-esteem which enable him to reach his greatest potential and lead a productive and healthy life.

2. The course must be organized and managed by licensed school counselors who, with the assistance of teachers, administrators, pupils, parents and the business community, shall provide instructions and activities designed to:

(a) Promote normal growth and development.

(b) Promote positive mental and physical health.

(c) Provide each pupil with knowledge and skills which permit him to control his own destiny.

(d) Assist each pupil to plan, monitor and manage his personal, educational and occupational development.

(e) Meet the immediate needs and concerns of each pupil, whether his needs or concerns require counseling, consultation, referral or information.

(f) Provide counselors, teachers and support staff with the knowledge and skills required to maintain and improve the course.

3. The instructions and activities required in subsection 2 must be made available for each pupil in grades 7 to 12, inclusive.

4. The board of trustees of each school district shall organize and enforce the course within the limits of money made available to the district by the legislature for that purpose.

Sec. 3. NRS 389.010 is hereby amended to read as follows:

389.010 [Boards] *Except as otherwise provided in section 2 of this act, boards* of trustees of school districts shall enforce in schools the courses of study prescribed and adopted by the state board . [of education.]

SUMMARY--Creates fund for enhancement of occupational education. (BDR 34-269)

FISCAL NOTE: Effect on Local Government: No.

Effect on the State or on Industrial Insurance: Contains Appropriation.

AN ACT relating to education; creating a fund for the enhancement of occupational education; making an appropriation; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. Chapter 388 of NRS is hereby amended by adding thereto a new section to read as follows:

1. There is hereby created in the state treasury a fund for the enhancement of occupational education to be administered by the state board for occupational education. The interest and income earned on the money in the fund, after deducting any applicable charges, must be credited to the fund.

2. Money in the fund must be used for programs of occupational education for pupils in grades 9 to 12, inclusive. The money may be used to

establish classes to introduce pupils in grades 9 and 10 to occupations in general, and to improve classes for pupils in grades 10, 11 and 12 on specific occupations. The state board for occupational education shall adopt regulations establishing minimum standards for those programs and classes.

3. Money in the fund must not be:

(a) Considered in negotiations between a recognized organization of employees of a school district and the school district; or

(b) Used to reduce the amount of money which would otherwise be made available for occupational education in the absence of this section.

4. The state board for occupational education shall annually establish a basic allocation of one-half of the money in the fund, distribute the basic allocation to each school district in equal proportions, and distribute the remainder of the fund in proportion to the number of students in grades 9 to 12, inclusive, in each school district who are enrolled full time in programs of occupational education on the last day of the first month of the school year.

Sec. 2. NRS 388.400 is hereby amended to read as follows:

388.400 1. The money for occupational education must be provided for and raised in the manner specified in NRS 387.050 and 388.330 to 388.400, inclusive **[.]** *, and section 1 of this act.*

2. The state treasurer is custodian of the money and he shall make disbursements therefrom on warrants of the state controller issued upon the order of the executive officer of the state board for occupational education.

Sec. 3. 1. There is hereby appropriated from the state general fund to the fund for the enhancement of occupational education created pursuant to section 1 of this act:

For the fiscal year 1989-90 ..... $2,198,139.75

For the fiscal year 1990-91 ..... 2,198,139.75

2. Any balance of the sums appropriated by subsection 1 remaining at the end of the respective fiscal years must not be committed for expenditure after June 30 and reverts to the state general fund as soon as all payments of money committed have been made.

Sec. 4. This act becomes effective upon passage and approval.

SUMMARY--Requires state board of education to establish course of study relating to technological advances. (BDR 34-270)

FISCAL NOTE: Effect on Local Government: No.

Effect on the State or on Industrial Insurance: Contains Appropriation.

AN ACT relating to education; requiring the state board of education to establish a course of study relating to technological advances; making an appropriation; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. NRS 388.380 is hereby amended to read as follows:

388.380 [The]

1. Except as otherwise provided in subsection 2, the board of trustees of a school district in a county whose population is 100,000 or more shall , and any other board of trustees of a school district may:

[1.] *(a)* Establish and maintain occupational schools or classes giving instruction in the subjects approved by the state board for occupational education.

[2.] *(b)* Raise and expend money for the establishment and maintenance of occupational schools or classes.

2. The board of trustees of each school district shall provide a course of study in technology in accordance with the regulations adopted by the state board of education pursuant to section 2 of this act.

Sec. 2. Chapter 389 of NRS is hereby amended by adding thereto a new section to read as follows:

1. The state board of education shall by regulation establish a course of study in technology. The course must include the study of the latest technological advances in the areas of agriculture, medicine, food processing and preservation, information processing, photography, graphic and electronic communications, construction, energy, manufacturing and transportation, and provide pupils with the opportunity to design, develop, maintain and operate technological systems in these areas.

2. The instruction required in subsection 1 must be given to each pupil before his completion of the 8th grade. The board of trustees of a school district may direct that the course be given over a 2-year period during the 7th and 8th grades.

Sec. 3. 1. There is hereby appropriated from the state general fund to the state board of education the sum of $720,000 for the purchase of school

equipment and supplies for use by the local school districts in providing the course of study in technology required pursuant to section 2 of this act.

2. The money so appropriated must not be considered when determining the amount of money available for salaries of teachers.

3. Any remaining balance of the appropriation made by subsection 1 must not be committed for expenditure after June 30, 1991, and reverts to the state general fund as soon as all payments of money committed have been made.

Sec. 4. This act becomes effective upon passage and approval.

SUMMARY--Requires state board of education to establish course of study to improve home and occupational skills. (BDR 34-271)

FISCAL NOTE: Effect on Local Government: No.

Effect on the State or on Industrial Insurance: Contains Appropriation.

AN ACT relating to education; requiring the state board of education to establish a course of study relating to home and occupational skills; making an appropriation; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. NRS 388.380 is hereby amended to read as follows:

388.380 [The] *1. Except as otherwise provided in subsection 2, the* board of trustees of a school district in a county whose population is 100,000 or more shall and any other board of trustees of a school district may:

[1.] *(a)* Establish and maintain occupational schools or classes giving instruction in the subjects approved by the state board for occupational education.

[2.] *(b)* Raise and expend money for the establishment and maintenance of occupational schools or classes.

2. The board of trustees of each school district shall organize the course of study designed to improve home and occupational skills in accordance with the regulations adopted by the state board pursuant to section 2 of this act.

Sec. 2. Chapter 389 of NRS is hereby amended by adding thereto a new section to read as follows:

1. The state board shall by regulation establish a course of study relating to home and occupational skills. The purpose of the course is to prepare each pupil to meet his present and future responsibilities as a family member, customer, home manager and wage earner by improving his ability to deal more constructively with situations which may arise in his home, community and work.

2. The course must include instruction which introduces each pupil to skills relating to decision-making, problem-solving, management and leadership applicable to all areas of daily living, including:

(a) The pupil's individual life and his relationship with others.

(b) The resources around him, including what he buys and eats, how he dresses and where he lives.

(c) The factors involved in tentatively choosing a career.

3. The instruction required in subsection 2 must be given to each pupil before his completion of the eighth grade. The board of trustees of a school district may direct that the course be given over a 2-year period during the seventh and eighth grades.

Sec. 3. 1. There is hereby appropriated from the state general fund to the state board of education the sum of $1,461,000 for the purchase of school equipment and supplies for use by the local school districts in providing the course of study designed to improve home and occupational skills required pursuant to section 2 of this act.

2. This appropriation must not be considered when determining the salaries of teachers.

3. Any remaining balance of the appropriation made by subsection 1 must not be committed for expenditure after June 30, 1991, and reverts to the state general fund as soon as all payments of money committed have been made.

Sec. 4. This act becomes effective upon passage and approval.