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ABSTRACT

Vocational education programs were offered in 10 middle schools, 5 area high schools, 2 alternative high schools, and at the central campus of Des Moines Public Schools (Iowa). The major curricular focus at the middle school was career exploration. At the area high school level, the program was broad based to meet the needs of a high percentage of the student body. The program included all six career areas identified by the state. Funds to support the program came from a number of sources: the district general fund, instructional support levy, state vocational funds, federal Carl Perkins funds, district human resources budget, district staff development budget, district curriculum development budget, instructional materials budget, decentralized funds, and student fees. Other significant inputs were provided by local companies and organizations in the form of guest speakers, classroom consultants, and work experience stations. The process of implementing the program included the following: curriculum development; instructional and resource material and equipment selection; personnel motivation and training; coordination with other programs; and evaluation of program results. Vocational education provided practical, hands-on, activity-based learning. However, overcoming the stigma attached to vocational courses continued to be a challenge. The program exceeded the requirements of state and federal vocational guidelines. Future planning focused on the continued development and delivery of high quality programs. (YLB)

95-321

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DIVISION OF TEACHING AND LEARNING

PROGRAM EVALUATION

VOCATIONAL EDUCATION
Grades 6 - 12

Business/Marketing Education
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Family and Consumer Sciences/Health
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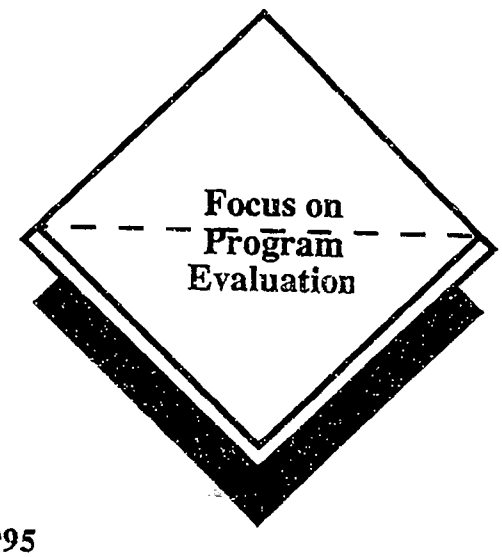

November 1995

CE071 063

EVALUATION ABSTRACT
VOCATIONAL EDUCATION
NOVEMBER, 1995

Context Evaluation

Vocational Education programs are offered in ten middle schools, five area high schools, two alternative high schools, and at Central Campus. Materials and assistance are also provided for students in special programs such as School-Within-A-School, hospital or homebound, and special education classes. The major curricular focus at the middle school level is career exploration. At the area high school level the Vocational Education program is broad based to meet the needs of a high percent of the student body. The program offerings at Central Campus are designed to assist students in developing employable skills.

The Vocational Education program includes courses in all six career areas identified by the state. Those six areas are Agriculture, Business, Family and Consumer Sciences, Health, Marketing, and Technology. The program exceeds the requirements of state and federal vocational guidelines. All programs are competency based, most provide more than the required three sequential units of instruction, and articulate with post-secondary institutions.

Input Evaluation

Funds to support the Vocational Education Program are provided from a variety of sources. They include the district general fund, the instructional support levy, state vocational funds, federal Carl Perkins funds, the district human resources budget, the district staff development budget, the district curriculum development budget, the instructional materials budget, decentralized funds, and student fees collected to pay for common supplies.

Other significant inputs are provided by local companies and organizations in the form of guest speakers, classroom consultants, and work experience stations.

Process Evaluation

The process of implementing the Vocational Education Program includes the development of curriculum, the selection of instructional and resource materials and equipment, the selection of personnel, the motivation and training of personnel, the coordination of the Vocational Education Program with the other programs being offered in the district, and the evaluation of the results of the program.

Product Evaluation

All Vocational Education courses are electives except 6th and 7th Grade exploratory courses. Enrollment is therefore a measure of the value students place on the program except in those cases where enrollment must be limited due to space, personnel, or equipment constraints.

Future Planning

The continued development and delivery of quality programs is the focus of future plans for the Vocational Education Department. Future program changes will be consistent with the concerns addressed in school-to-work and career pathways legislation. The areas identified for emphasis include expansion of work-based learning, integration of academics, articulation with post secondary programs, and increased use of technology.

Current plans call for an increase in the use of technology, a continuation of efforts to assure the relevancy of the curriculum content, and increased efforts in measuring student achievement.

A copy of the complete report is available upon request from the Department of School Improvement, Des Moines Independent Community School District, 1800 Grand Avenue, Des Moines, Iowa 50309-3399. Telephone: 515/242-7836. All evaluation reports are submitted to the Educational resources Information Center (ERIC) and Education Research Service (ERS).

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VOCATIONAL EDUCATION
Grades 6 - 12

Dr. Raymond Armstrong
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DISTRICT MISSION STATEMENT

DES MOINES INDEPENDENT COMMUNITY SCHOOL DISTRICT
DES MOINES, IOWA

"The Des Moines Independent Community School District will provide a quality educational program to a diverse community of students where all are expected to learn."

Vocational Education
Des Moines Style

Mission Statement: To provide an educational system utilizing community resources to meet the needs of adiverse population of students where all are prepared to become employable, productive citizens.

CAREER CURRICULAR AREAS

- Agriculture
- Business
- Career and Technology Education
- Family and Consumer Sciences
- Health Careers
- Marketing

CONTEXT EVALUATION

History/Vocational Education

Iowa has a long history of leadership in the delivery of vocational education programs and services to the mutual benefit of its citizens and its major enterprises. Employment skill development has long been a tradition in the vocational education programs in Des Moines Public Schools.

On April 21, 1917, the 37th General Assembly of the Iowa State Legislature accepted the provisions of the Smith-Hughes Act and established a State Board for Vocational Education. The board, which consisted of the State Superintendent of Public Instruction, the State Labor Commissioner, and the President of the State Board of Education, had full authority to carry out the provisions of the national and state vocational education acts and to provide general direction for agricultural, trade and industrial (including commercial and mercantile trades), homemaking education, teacher training, and vocational rehabilitation.

The emphasis in vocational education started in the Des Moines schools shortly after the United States entry into World War II to meet the immediate needs of our country. Federal funds were provided for purchasing equipment and providing instructors to educate in skills that were in demand at that time.

The adult training facilities also became available for part-time use by high school students, thus providing a new dimension to the regular school curriculum. In the early 1940s, the Des Moines district began to plan for a specialized high school that would provide students with salable skills.

When Des Moines Technical High School (Tech High) opened its doors in 1942 at the old West High School building at 1440 Center, approximately 290 students had enrolled. As the enrollment increased over the next few years, new vocational programs were added to the curriculum to meet the needs of the students and the business and industrial community. Advisory committees of people from business and industry in specific skill areas played a large role in the early development of the programs and facilities for Tech High. They assisted school personnel in developing and maintaining vocational programs which would provide the students with skills needed by business and industry.

As the school grew, the program became too large for the building and in 1958, Tech High School moved to 1800 Grand Avenue. In 1982, the Des Moines Independent Community School Board made a decision to discontinue Tech High School as one of the district's comprehensive high schools, but continue to utilize it as a vocational center to meet the needs of students, business, and industry.

Today the vocational center is known as Central Campus, which is an extension of all the high schools in Des Moines. Central Campus offers courses in 24 vocational-technical areas, as well as academic classes not available at the home high schools. Many of advanced level courses in business and marketing, and all of the advanced courses in agriculture, family and consumer sciences, health, and technology education are offered at Central Campus.

The past five years have seen a great interest nationally in vocational education programs. Initiatives such as Tech Prep, Work Start, and School to Work are taking shape across Iowa and across the country. School to Work programs include school-based learning, work-based learning and connecting activities. The programs are developed through collaboration with staff, students, business and industry representatives and parent involvement. Program development and evaluation occurs through the use of advisory committees, focus groups, participation of business and industry in the classroom, participation at state and national contests and conferences, and work experience of staff. Des Moines is proud of the comprehensive School to Work programs offered for students. A firm foundation has been established for building future programs to meet the needs of today's workforce.

Structure

The Vocational Education Programs are administered by the Supervisor of Technology Education and Agriculture, the Supervisor of Family and Consumer Sciences and Health, and the Supervisor of Business

and Marketing. These three supervisors are part of the Teaching and Learning Division and report to the Director of Central Campus. They work with other subject area supervisors to develop and implement a curriculum that addresses the mission of the Des Moines Public Schools.

Standards, Policies and Regulations

Iowa Vocational Standards Act - 1990

During the 73rd session of the Iowa General Assembly, the Iowa Vocational Standards Act was passed unanimously by both House and Senate. The essence of Iowa Vocational Standards Act is a recognition that Iowans must have access to quality vocational programs in order to meet our citizen's training and retraining needs as well as to prepare workers for the 21st century. One of the initiatives of the Iowa Vocational Standards Act was the development by the Iowa State Department of Education of minimum competencies for the six vocational service areas. Also, the Department of Education was to establish guidelines for program development as mandated by Iowa Vocational Standards Act and the school standards for curriculum development outlined in 256.11 of the Iowa Code.

Carl Perkins Vocational and Applied Technology Education Act of 1990

This legislation provides for the allocation of federal funds to the states. Each state is then charged with allocating those funds to local education agencies, both secondary and postsecondary, in accordance with state plans previously approved by the United States Department of Education. The primary focus of Carl Perkins legislation is to assure the participation and success of special populations in vocational education programs. Carl Perkins funds must be used for projects consistent with that primary focus.

Performance Measures and Standards - 1994

A significant change in vocational education brought about by the Carl D. Perkins Vocational and Applied Technology Education Act of 1990 (Perkins II) requires states to adopt systems of standards and measures of performance for judging the success of local programs and guiding program improvement. The primary responsibility for program improvement is assigned to local programs, with states playing an oversight and technical assistance role. The success of this innovation depends upon the relevance of standards and measures to local policymaking, the existing incentives and pressures under which local programs operate, and the support states provide for local improvement.

Iowa State Board of Education has identified the following measures and standards for all vocational programs:

Areas of Program Measures

Iowa's System of Performance Measures and Standards include the following:

A. Core Measures
   1. Gain in Basic and Advanced Academic Skills
   2. Gain in Specific Occupational Competencies
   3. Occupational Competency Attainment
   4. Access

B. Optional Measures
   5. Student Satisfaction (Before Graduation)
   6. Student Satisfaction (After Graduation)
   7. Retention
   8. Placement
   9. Employer Satisfaction

School to Work

The School to Work legislation integrates work-based learning and school-based learning, academics and occupational learning which must link secondary and postsecondary, education together. The strength of School to Work is the diversity of approaches in meeting local needs. Successful programs often share three basic program elements:

- Work-based learning, includes paid work experience, structured training, and mentoring at the worksite.
- School-based learning, based on career majors, which is a program of instruction designed to meet high academics and occupational skill standards.
- Connection activities, which assist employers, schools, and students, connect the worlds of school and work. This is the "glue" that helps the local partners deliver quality programs.

RESPONSIBILITY STATEMENT AND GENERAL OBJECTIVES

Business/Marketing Education

Title: Supervisor of Business/Marketing Education Year: 1995-96

Responsibility Statement

The responsibility of the Supervisor of Business Education of the Des Moines Public Schools is to: (1) correlate the Business Education Program to the district mission, (2) to promote the development, delivery, and evaluation of the best possible Business Education Program.

Organizational Tasks

The organizational tasks to be performed by the Supervisor of Business Education include: (1) coordinating the mission, objectives, and activities of the Business Education program with the mission, objectives, and activities of the other programs in operation within the district, (2) supervising the planning, development, implementation, and evaluation of the Business/Marketing Education curriculum.

Organizational Relationships

The Supervisor of Business Education reports to the Director of Central Campus, works with other district personnel, and shares the supervision of two secretaries.

1995-96 Objectives

Weight (%)	Description
30%	1. Monitor the Business Education Program by: a. assisting personnel in individual buildings with problems and concerns relevant to Business Education b. encouraging teachers to put more emphasis on the teaching of reading, listening, writing, speaking, and thinking within the content of Business Education c. observing teachers in their classrooms d. interacting with various publics including program advisory committees, Business/Education Alliance committees, and vendors of Business Education equipment and materials
30%	2. Supervise the development of new initiatives in Business Education by: a. assisting with the acquisition, delivery, and set-up of computers in various buildings throughout the district b. assisting with the development of a new curriculum for Applied Economics and Advanced Computer Applications c. assisting with the selection of new instructional materials
30%	3. Work with the Department of Education to assure that the Business Education program is in compliance with state and federal guidelines by: a. reading professional literature b. attending local, state, and national meetings c. networking with colleagues around the state and nation d. filing all necessary reports with the Department of Education

10%	4. Participate in district-wide activities such as: a. District Technology Consultation Committee b. Career Education Advisory Committee c. Technology Plan Implementation Committee d. Other special requests or assignments

Family and Consumer Sciences/Health

Title: Supervisor, Family and Consumer Sciences/Health

Year: 1995-96

Responsibility Statement

The responsibility of the Family and Consumer Sciences (FCS)/Health Supervisor is to promote the development, implementation, and evaluation of quality family and consumer sciences programs and health programs at the secondary level as they relate to the district mission of Des Moines Public Schools.

Organizational Tasks

The organizational tasks of the supervisor of FCS/health include: 1) planning and developing the family and consumer sciences and health curriculum; 2) implementing district curriculum and staff development opportunities in family and consumer sciences and health; and 3) evaluating materials, curriculum, staff, and programs relating to family and consumer sciences and health education.

Organizational Relationships

The Family and Consumer Sciences (FCS)/Health Supervisor reports to the Director of Central Campus, supervises and supports district family and consumer sciences and health teachers at Central Campus, area high schools, and middle schools. In addition, the FCS/Health Supervisor assists and supports the work of the building principals, other content area supervisors, and various district committees to which she is assigned or has responsibility.

1995-96 Objectives

Weight (%)	Description
30%	1. Support staff and students enrolled in family and consumer sciences and health by: a. Being visible and accessible b. Providing in-service and staff development c. Encouraging teachers
30%	2. Evaluate and update district curriculum by: a. Implementation of curriculum for middle school b. Implementation of objectives-based test in Sewing Technology c. Curriculum review, revision, and textbook adoption for Adult Living Skills, Nursing d. Implementation of a Health Careers class at Des Moines General Hospital e. Review elementary health program f. Interaction with various program advisory committees g. Remaining current in trends, issues, legislation, resources and strategies in family and consumer sciences and health

h. Implement marketing tools for family and consumer sciences
i. Review articulation process and procedures with DMACC

30% 3. Support vocational education in Des Moines Public Schools by:
a. Completing state vocational reports
b. Planning and implementing strategies to assist special needs students in vocational education
c. Planning and implementing strategies to assist vocational staff in meeting needs of special education students
d. Managing the Family and Consumer Sciences vocational education budget
e. Facilitating the FCS/health program compliance with SF449
f. Developing articulation agreements between Central Campus programs and DMACC
g. Explore implementation of School To Work concepts

10% 4. Participate in professional and district-wide activities such as:
a. FCS/Health Program Advisory Committees
b. Family and Consumer Science Educators Council
c. Professional Development Committee
d. State-wide FCS Marketing Coalition
e. It Takes Two Advisory Committee, chair
f. Wellness Cadre
g. Work Start State Advisory Council
h. Iowa Consortium for Adolescent Pregnancy Prevention

Career and Technology Education

Title: Supervisor of Career and Technology Education Year: 1995-96

Responsibility Statement:

It is the responsibility of the Supervisor of Career and Technology Education to provide direction and supervision for Career and Technology Education programs as they relate to the district mission of the Des Moines Public Schools.

Organizational Tasks:

The organizational tasks to be performed by the Supervisor of Career and Technology Education encompass planning, implementing, and evaluating in several areas.

The Career Education curriculum, which is infused in all content area instructional objectives K-12, is monitored by the Technology Education Supervisor. Responsibilities of the Supervisor of Technology Education include content-specific areas of Technology Education and Agribusiness. This involves coordination of curriculum development, textbook selection, program evaluation, and improvement in Technology Education for grades 6-8 and Advanced Technology Education courses offered at the home high school and Central Campus (17 programs grades 9-12). Special Needs programs, funded through Carl Perkins legislation, are also coordinated by the Technology Education Supervisor. All state and federal reports, grant proposals, and the implementation and evaluation of Vocational Education are coordinated by the Supervisor of Technology Education. The budgets for Technology Education, Agribusiness, and Carl Perkins Special Needs are the responsibility of the Technology Education Supervisor.

Organizational Relationships:

The Supervisor of Career and Technology Education reports to the Director of Central Campus. Coordination of all vocational programs is accomplished cooperatively with the Business Education and Home Economics supervisors. Because a high percentage of the district's vocational programs are located at Central Campus, the Supervisor of Technology Education works closely with the Director of Central Campus and the Council of Principals to maintain coordination of the scope and sequence of vocational program offerings at the home high schools and Central Campus.

It is the responsibility of the Supervisor of Technology Education to be knowledgeable of current national and state trends in Vocational Education programming and to serve as a liaison for the district in articulating Technology Education program offerings to postsecondary institutions, K-12 districts seeking shared program agreements, apprenticeship training programs and the employers in business and industry.

1995-96 Objectives

Weight (%)	Description
5%	1. Coordinate the Career Vocational Advisory Committee(s) in providing input to the district on current business trends and communicating to the community the positive aspects of Vocational Education in the Des Moines Public Schools.
20%	2. Coordinate and facilitate articulation agreements and School to Work programs for Vocational Education.
25%	3. Serve as liaison to the Department of Education for the implementation of the State Measures and Standards for Vocational Education and current federal Vocational Education legislation (Carl Perkins).
20%	4. Coordinate curriculum updating and textbook selection for the following programs: Electricity and Electronics Fundamentals & Technology grades 9-12, Electronic Technology and Industrial Electricity at Central Campus grades 11 and 12.
25%	5. Develop and implement a measurement system for Measures and Standards, grades 9-12.
5%	6. Assist schools with their respective building goals regarding Vocational Education.

Vocational Programs

The following pages describe the articulation of courses and enrollment of vocational education courses in the Des Moines Public Schools.

Des Moines Public Schools
Business & Office Program

Office Strand		Accounting Strand		Computer Strand	
Course	Units	Course	Units	Course	Units
Keyboarding	.5	Accounting 1	.5	Computer Applications	.5
Advanced Keyboarding	.5	Accounting 2	.5	Word Processing	.5
Business Math	.5	Accounting 3	.5	Information Processing	.5
Business Procedures	.5	Accounting 4	.5	Desktop Publishing	.5
Office Education	1	Accounting Specialist I*	3	Advanced Computer Technology*	2
Office Education Coop	1	Accounting Specialist II*	3		
WordPerfect*	2				
Office Technology*	2				

*Offered at Central Campus

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Marketing Program

Course	Units
Exploring Business	.5
General Business	.5
Marketing/Principles**	.5
Marketing/Retailing***	.5
Marketing/Sales**	.5
Marketing/Entrepreneurship***	.5
Business Law	.5
Applied Economics	.5
Marketing Coop	.5

**Offered alternating fall semesters
***Offered alternating spring semesters

HIGH SCHOOL PROGRAMS

Business Education

COURSE	SCHOOL LOCATION[1]	94-95 ENROLLMENT
Accounting 1 One semester, one-half unit of credit	E, H, L, N, R	367
Accounting 2 One semester, one-half unit of credit	E, H, L, N, R	193
Accounting 3 One semester, one-half unit of credit	E, L, N	55
Accounting 4 One semester, one-half unit of credit	L	19
Accounting Specialist 1 One year, three units of credit	CC	16
Accounting Specialist II One year, three units of credit	CC	32
Advanced Computer Applications One year, two units of credit	CC	25
Advanced Keyboarding One semester, one-half unit of credit	E, L, N, R	244
Applied Economics One semester, one-half unit of credit	E, H, L, N, R	687
Business Math One semester, one-half unit of credit	E, L, N, R	287
Business Procedures One semester, one-half unit of credit	E	34
Computer Applications One semester, one-half unit of credit	E, H, L, N, R	1059
Co-op OE One year, one unit of credit	CC	8
Desktop Publishing One semester, one-half unit of credit	E, H, L, N, R	88
Information Processing One semester, one-half unit of credit	E, H, L, N, R	185
Keyboarding One semester, one-half unit of credit	E, H, L, N, R	1462
Notetaking One semester, one-half unit of credit	E	30
Office Education One year, one unit of credit	E, L	80
Office Education Co-op One year, one unit of credit	E, L	80
Word Processing One semester, one-half unit of credit	E, H, L, N, R	285
WordPerfect One year, two units of credit	CC	53

[1] E = East, H = Hoover, L= Lincoln, N = North, R = Roosevelt, S = Scavo, CAS = Casady, and CC = Central Campus

Marketing Education

COURSE	SCHOOL LOCATION[1]	94-95 ENROLLMENT
Business Law One semester, one-half unit of credit	E, L, R	116
Exploring Business One semester, one-half unit of credit	E, H, L, N, R	187
General Business One semester, one-half unit of credit	E, H, L, N, R	253
Marketing Co-op One semester, one-half unit of credit	L, N	183
Marketing/Principles One semester, one-half unit of credit	L, N, R	112
Marketing/Retailing One semester, one-half unit of credit	L, N, R	105
Marketing/Sales One semester, one-half unit of credit	E	59

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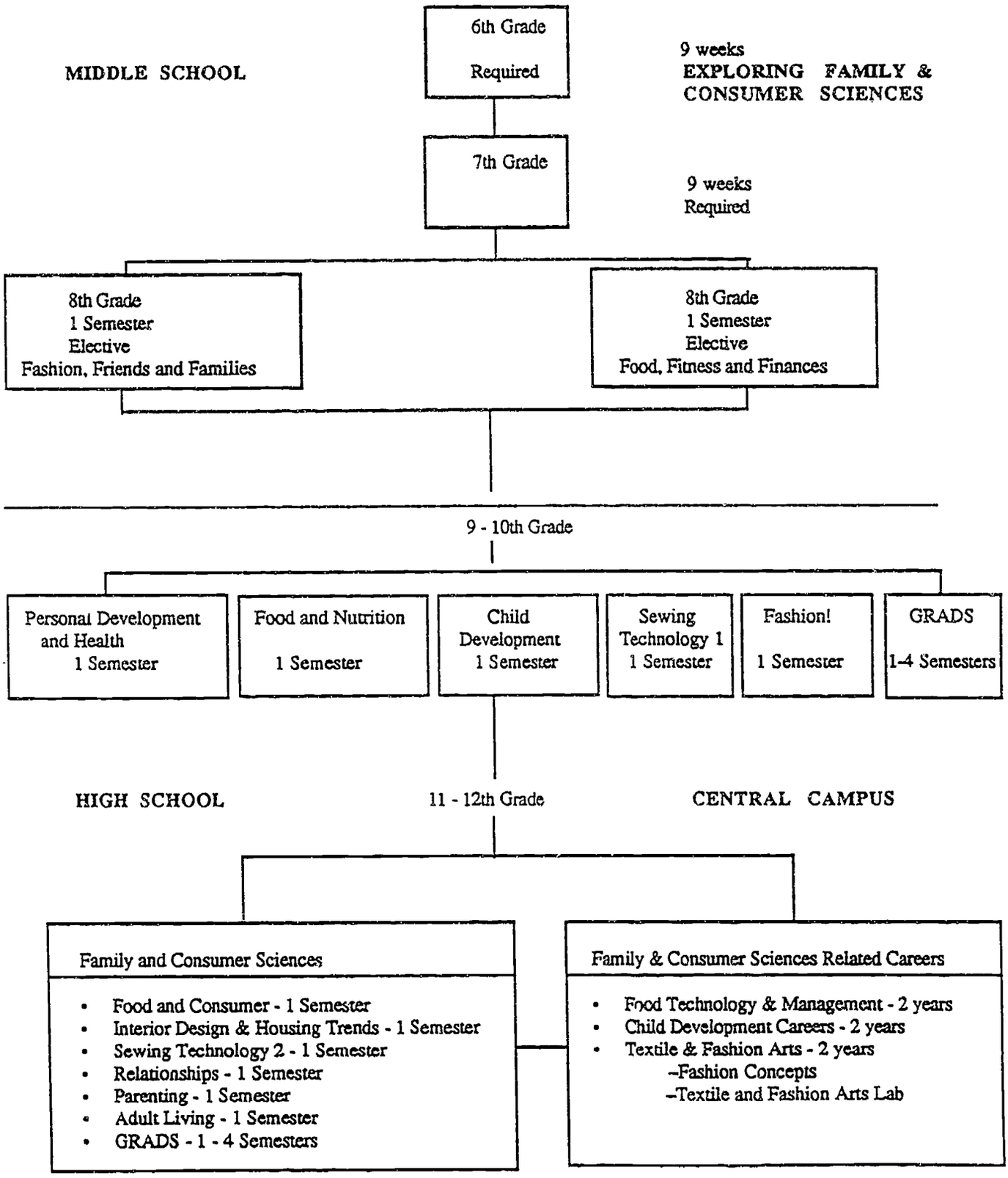
DES MOINES PUBLIC SCHOOLS
ARTICULATION OF COURSES
FAMILY AND CONSUMER SCIENCES



HIGH SCHOOL PROGRAMS

Family and Consumer Sciences

COURSE	SCHOOL LOCATION[1]	94-95 ENROLLMENT
Adult Living Skills One semester, one-half unit of credit	E, H, L, N, R, S, CAS	273
Child Development One semester, one-half unit of credit	E, H, L, N, R, S, CAS	687
Child Development Careers I Full year, three units of credit; optional second year	CC	24
Child Development Careers II Full year, three units of credit	CC	6
Fashion! One semester, one-half unit of credit	E, H, L, R, N	196
Fashion Concepts 1 One semester, one-half unit of credit	CC	15
Fashion Concepts 2 One semester, one-half unit of credit	CC	15
Fashion Concepts 3 One semester, one-half unit of credit	CC	8
Fashion Concepts 4 One semester, one-half unit of credit	CC	8
Food and Nutrition One semester, one-half unit of credit	E, H, L, N, R, S, CAS	660
Food and the Consumer One semester, one-half unit of credit	E, H, L, N, R, S, CAS	209
Food Technology & Management I One year, three units of credit	CC	18
Food Technology & Management II One year, three units of credit	CC	9
Food Technology & Management III One year, three units of credit	CC	2
GRADS - Graduation, Reality, & Dual-Role One or more semesters, one-half unit of credit per semester	E, L, N, R, S, CAS	281
Interior Design & Housing Trends One semester, one-half unit of credit	E, H, L, N, R	37
Parenting One semester, One-half unit of credit	E, L, N, R, S,	136
Personal Development & Health One semester, one-half unit of credit	E, H, L, N, R, S, CAS	271
Relationships One semester, one-half unit of credit	E, H, L, N, R, S	177
Sewing Technology 1 One semester, one-half unit of credit	E, H, L, N, R, S	162
Sewing Technology 2 One semester, one-half unit of credit	E, H, L, N, R, S	25

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COURSE	SCHOOL LOCATION[1]	94-95 ENROLLMENT
Textile & Fashion Arts Lab I One year, two units of credit	CC	15
Textile & Fashion Arts Lab II One year, two units of credit	CC	8

Health

COURSE	SCHOOL LOCATION[1]	94-95 ENROLLMENT
Introduction to Dentistry One semester, one unit of credit	CC	0
Introduction to Health Careers One semester, one unit of credit	CC	8
Introduction to Nursing One semester, one unit of credit	CC	26
Nurse Aide One semester, one unit of credit	CC	23
*Practical Nursing Two years, eight units of credit	CC	15

[1] E = East, H = Hoover, L = Lincoln, N = North, R = Roosevelt, S = Scavo, CAS = Casady, and CC = Central Campus

Classroom of The Future . . .

TECHNOLOGY EDUCATION

CURRICULUM FLOW CHART
for
Career Opportunities

MIDDLE SCHOOL
Technology Education

6th Grade
9 Weeks
(Required Course)

ProductionTechnology
includes: Woods, Metals, Plastics & Graphics

7th Grade
9 Weeks
(Required Course)

Energy and Power Technology
Includes: Electricity, Power Mechanics & Alternative Energy

8th Grade
18 Week
(Elective Course)

Drafting and Graphic Arts Technology
Includes: Drafting CAD, Graphic Arts, Radio & Television & Photography

Materials & Processes Technology
Includes: Woods, Plastics, Metal, Power & Electricity

HIGH SCHOOL
Introduction to
Advanced Technology Education
(one-year course)
9th or 10th Grade
(Course Offering May Vary For Each One Of The Respective High Schools)

10th, 11th, 12th Grade
Course Length:
Semester
Semester

Graphic Arts & Drafting Technology

Combined Course

Graphic Arts & Drafting Fundamentals
Graphic Arts & Drafting Technology

Metal Manufacturing Technology

Metalworking Fundamentals
Metalworking Technology

Wood Construction Technology

Woodworking Fundamentals
Woodworking Technology

Automotive Power Technology

Automotive Fundamentals
Automotive Technology

9th, 10th, 11th, & 12th Grades

***Elec/Electronics Fundamentals Elec/Elec Tech**
(One Year)

CENTRAL CAMPUS
(Advanced Technology Education)
10th, 11th & 12th Grade

*****Graphic Arts Tech***
Commercial Art Technology
*****Commercial Photography Technology***
Radio/Television Production Technology

Drafting Technology
****Engineering Technology & Robotic Systems***

Electronic Technology
Industrial Electricity Technology

Welding/Welding Related Technology

Home BuildingTechnology
A. Fine Woodworking
B. Structural Woodworking
Painting & Decorating Technology
*****Home Remodeling***

Auto Body Technology
Automotive Technology
*****Aviation Technology***

*****Horticulture, Animals, & Urban Landscaping Technology***

*One hour course offered at Central Campus
** Courses offered at locations other than Central Campus: East High School, McCombs Middle School, and Des Moines International Airport

(See Inside Brochure for More Career Planning Information)

HIGH SCHOOL PROGRAMS

Technology Education

COURSE	SCHOOL LOCATION[1]	94-95 ENROLLMENT
Auto Body Technology I & II Two years, six units of credit	CC	71
Automotive Fundamentals I & Tech II One year, one unit of credit	E, L, S	371
Automotive Technology I & II Two years, six units of credit	CC	140
Aviation Technology I, II, & III Three years, nine units of credit	CC	61
Commercial Art Technology I & II Two years, six units of credit	CC	35
Commercial Photography Tech I & II Two years, five units of credit	CC	139
Drafting Technology I & II Two years, six units of credit	CC	83
Electricity/Electronics Fund I & Tech II One year, two units of credit	CC	30
Electronic Technology I & II Two years, six units of credit	CC	38
Engineering Tech & Robotics Systems One year, two units of science or applied arts credit	CC	68
Graphic Arts Technology I & II Two years, six units of credit	CC	27
Graphic Arts & Drafting Fund I & Tech II One year, one unit of credit	E, H, L, N, R, S	328
Graphic Arts Fundamentals I & Tech II One year, one unit of credit	E, L	322
Home Building Technology I One year, one unit of credit	CC	65
Home Building Technology II One year, one unit of credit	CC	40
Home Remodeling One year, one unit of credit	CC, E	78
Horticulture, Animals & Urban Landscaping Technology I, II, & III Three years, nine units of credit	CC	67
Industrial Electricity Tech I & II Two years, six units of credit	CC	19
Intro to Advanced Technology One year, one unit of credit	E, H, L, N, R, S	1071
Metalworking Fund I & Tech II One year, one unit of credit	E, H, L, N, R	300
Painting & Decorating Tech I & II Two years, six units of credit	CC	17
Photography Fundamentals I & Tech II One year, one unit of credit	E	130

[1] E = East, H = Hoover, L = Lincoln, N = North, R = Roosevelt, S = Scavo, CAS = Casady, and CC = Central Campus

Technology Education

COURSE	SCHOOL LOCATION[1]	94-95 ENROLLMENT
Radio/TV Production Tech I & II Two years, five units of credit	CC	122
Technology Today One year, one unit of credit	N	97
Welding/Welding Related Tech I & II Two years, six units of credit	CC	52
Woodworking Fund I & Tech II One year, one unit of credit	E, H, L, N, R, S	586

[1] E = East, H = Hoover, L = Lincoln, N = North, R = Roosevelt, S = Scavo, CAS = Casady, and CC = Central Campus

MIDDLE SCHOOL PROGRAMS

At the middle school level Business, Family and Consumer Sciences, and Technology Education are required at grades six and seven. These courses are offered as part of the exploratory courses, students rotate from course to course on a 7-9 week schedule. At the eighth grade level each program area has an elective course offering. Each of the programs serve approximately half of the total eighth grade enrollment each school year.

Business Education

6th Grade Keyboarding	Exploratory Course, Required
7th Grade Keyboarding	Exploratory Course, Required
8th Grade Keyboarding	One semester, Elective

Family and Consumer Sciences

6th Grade Family & Consumer Sciences	Exploratory Course, Required
7th Grade Family & Consumer Sciences	Exploratory Course, Required
8th Grade Fashion, Friends & Families	One semester, Elective
8th Grade Foods, Fitness & Finances	One semester, Elective

Technology Education

6th Grade Production Technology	Exploratory Course, Required
7th Grade Energy & Power Technology	Exploratory Course, Required
Grade Drafting & Graphic Arts Tech	One semester, Elective
8th Grade Materials & Processes Tech	One semester, Elective

PROGRAM COMMITTEES

Career/Vocational Education Advisory Committee

A school, department or class receiving federal or state funds must have a local advisory council for vocational education composed of public members, representing business, industry, and labor. Individual career/vocational programs have advisory committees that give advice, direction, and assistance to the program in the areas of technology, curriculum, and resources. Whenever a specific need or discussion warrants special attention, focus groups are organized to provide input. Focus groups are becoming a useful tool in programming with the fast pace of technology and the diverse population in our classrooms and labs.

Curriculum Committees

Curriculum committees study current research and trends for the courses under consideration for adoption of instructional materials. Curriculum committees are formed by curriculum supervisors. Committee composition includes educators, parents, students, business, industry and labor.

INPUT EVALUATION

Funds to support the vocational education programs come from a variety of sources. State and federal monies allocated to school districts for the improvement of vocational education programs are a source of discretionary funds. Some instructional support levy funds are allocated for the improvement of vocational programs. Other funds are provided through the district human resources budget, the curriculum development budget, and the instructional materials budget. Decentralized funds are budgeted for vocational education in most middle and high school buildings. Participation fees are collected from students enrolled in some vocational education courses requiring the use of consumable supplies.

State Vocational Funds

State vocational funds are allocated to various budget accounts which are administered by the Supervisors of vocational education programs and the Director of Central Campus.

1994-95 Vocational Budget

Account	Total
In-Service	$8,000
Out-of-District Travel	4,500
In-District Travel	2,000
Supplies/Materials	10,500
Equipment/New	80,474
Equipment/Replacement	12,837
Equipment/Maintenance	7,700
Salaries/Associates	40,000
Total	$166,011

The In-Service account is used to acquire materials and conduct workshops designed to assist teachers in enhancing their teaching skills and content knowledge.

The Out-of-District Travel and In-District Travel accounts are used to assist teachers with the expense of traveling to professional meetings and conferences related to their teaching assignment. This includes chaperoning students who win the right to attend state or national contests.

The Supplies/Materials account is used to buy computer software and other supplementary materials for use in classrooms.

The Equipment account is used to acquire, replace, or maintain equipment used in the vocational education programs.

The Salaries account is used to hire classroom associates in various programs where the number of special needs students and the presence of equipment create a safety and educational concern.

Vocational program improvement funds received from the state for 1994-95 amounted to $398,623. This amount is based on a percentage of salaries and benefits paid to teachers of approved vocational courses.

Federal Funds (Carl Perkins)

Carl Perkins funds are federal funds allocated to states in accordance with state plans submitted to the federal government. The state of Iowa then allocates those funds to individual school districts in accordance with plans submitted by the district.

The Carl Perkins allocation and budget for 1994-95 is as follows:

Salaries	$63,342
Contracted Services	29,797
Materials/supplies	23,900
Equipment	258,755
Travel	13,000
Total	$388,794

The Salaries account is used to hire classroom associates in various programs where the number of special needs students and the presence of equipment create a safety and educational concern.

The Contracted Services account is used to pay for some equipment repair and maintenance and to provide speakers for in-service activities including March In-Service.

The Materials/Supplies account is used to buy computer software and other supplementary materials for use in classrooms.

The Equipment account is used to acquire, replace, or maintain equipment used in the vocational education programs.

The Travel account is used to assist teachers with the expense of traveling to professional meetings and conferences related to their teaching assignment.

Human Resources Budget

The Human Resource Budget is administered by the Human Resources Department. Individual buildings are allocated a specific number of staff positions determined primarily by projected enrollment. Building administrators then distribute that allocation among the various curricular areas.

Human resource expenditures for vocational education for 1994-95 are as follows:

	# Sections	FTE*	Salary	Benefits	Total
Middle Schools	376	31.3	$1,098,770	$329,631	$1,428,401
Casady School	40	3.3	157,271	47,181	204,452
Scavo School	45	3.8	181,781	54,534	236,315
Central Campus	353	29.4	1,171,811	351,543	1,523,354
East High School	208	17.3	666,354	199,906	866,260
Hoover High School	60	5.0	205,524	61,657	267,181
Lincoln High School	168	14.0	549,300	164,790	714,090
North High School	102	8.5	329,862	98,959	428,821
Roosevelt High School	69	5.8	194,385	58,316	252,700
Total	1,421	118.4	$4,555,058	$1,366,517	$5,921,575

In the table above a section is a class period of one hour or less offered for one semester. Classes that meet for a two hour block would be counted as two sections. *FTE stands for full time equivalent and equals 12 sections, six each semester.

Human resource expenditures for the administration of the vocational education program include the salary of one supervisor for Business Education, one supervisor for Family and Consumer Science, one supervisor and one consultant for Technology Education, and one and one-half secretarial positions. The total expenditure for 1994-95 was $297,497; $228,844 for salaries and $68,653 for benefits.

Curriculum Development Budget

The Curriculum Development Budget is used to pay teachers for time spent reviewing and revising the curriculum, developing curriculum guides for each course, and selecting appropriate instructional materials for use in the classroom. Most of this work is done in the evening, on weekends, or during the summer to avoid having teachers out of the classroom during the school day. The amount expended for 1994-95 was $23,956.

Instructional Materials Budget

The Instructional Materials Budget is administered through the Instructional Support Division. It is used primarily to acquire instructional materials in accordance with the district materials adoption cycle. The amount budgeted each year varies with the number of courses on the cycle and the projected enrollment in those courses. The materials adoption schedule and tentative budgets are as follows:

	Course	Budget
Fall of 1996		
	Applied Economics	$8,000
	Advanced Computer Applications	8,000
	Adult Living Skills	10,000
	Practical Nursing	6,000
	Nurse Aid	2,000
	Industrial Electricity/Electronics	10,000
	Electronic Technology	10,000
	Electricity/Electronic Fundamental	7,500
	Total	$61,500
Fall of 1997		
	Exploring Business	$8,000
	General Business	8,000
	GRADS	6,000
	Home Remodeling	7,500
	Horticulture & Animal Science	10,000
	Total	$39,500

Fall of 1998	Course	Budget
	Computer Applications	$14,000
	Marketing/Principles	8,000
	Marketing/Retailing	8,000
	Marketing/Sales	8,000
	Marketing/Entrepreneurship	8,000
	FCS: Cookbooks	3,000
	FCS: Food & Consumer	5,500
	FCS: Food & Nutrition	10,150
	Total	$64,650
Fall of 1999		
	Business Math	$9,000
	Business Law	6,000
	Notetaking	3,000
	Shorthand	2,000
	Child Development	17,150
	Parenting	6,650
	Drafting	15,000
	Graphic Arts & Drafting Fundamentals	27,500
	Total	$86,300
Fall of 2000		
	Word Processing	$10,000
	WordPerfect	4,000
	Information Processing	8,000
	Desktop Publishing	8,000
	Business Procedures	6,000
	Keyboarding	10,000
	Advanced Keyboarding	10,000
	Personal Development and Health	10,000
	Practical Nursing	8,000
	Health Careers	3,000
	Commercial Photography	15,000
	Graphic Arts	10,000
	Radio/TV Production	15,000
	Commercial Art	10,000
	Total	$127,000

Fall of 2001	Course	Budget
	6th Grade Keyboarding	$10,400
	7th Keyboarding	10,400
	8th Keyboarding	10,400
	Office Technology	6,000
	Office Education	6,000
	Child Care	2,600
	Textile Fashion Arts	2,600
	Food Technology & Management	2,600
	Auto Body Technology	15,000
	Aviation Technology	15,000
	Automotive Technology	15,000
	Automotive Fundamentals	17,500
	Total	$113,500
Fall of 2002		
	Accounting 1-2	$20,000
	Accounting Specialist	6,000
	Fashion!	12,000
	Sewing Technology	10,000
	Interior Design & Housing Trends	6,000
	Drafting & Graphics Grade 8	25,000
	Energy & Power Grade 7	22,500
	Materials & Processing Grade 8	25,000
	Production Grade 6	22,500
	Total	$149,000
Fall of 2003		
	Accounting 3-4	$7,800
	Family and Consumer Science 6-8	26,000
	Family and Consumer Science: Relationships	7,800
	Painting & Decorating	5,000
	Home Remodeling	10,500
	Home Bldg/Fine Wdwkg/Structural Wdwkg	15,000
	Wood Fundamentals	25,000
	Total	$97,10

Building Budgets

Each secondary building establishes a decentralized budget to support the various programs in their building. These funds are used at the desecration of the staff in each building, subject to the approval of the building administrator. Typically, the funds are used to acquire consumable supplies, supplementary instructional or resource materials. In some instances they are used to buy additional equipment for classroom use. The building budgets for the 1995-96 school year are as follows:

Brody	$ 300	Casady	$ 750
Callanan	2,250	Scavo	2,695
Goodrell	900	Central Campus	53,217
Harding	2,500	East	8,160
Hiatt	1,488	Hoover	3,400
Hoyt	2,000	Lincoln	10,233
McCombs	1,408	North	3,650
Meredith	3,435	Roosevelt	6,150
Merrill	2,000		
Weeks	300		

Student Fees for Consumables

Many of the courses offered by the Vocational Education Department require the use of consumable supplies such as ink cartridges, computer disks, printer paper, food, sewing supplies, finishing supplies, and small tools. Each year a uniform fee schedule is established by estimating the cost of supplies needed and dividing by the projected enrollment. The uniform schedule of student fees for consumables for 1995-96 is as follows:

Middle Schools	
Keyboarding Grade 6	$3.00
Keyboarding Grade 7	3.00
Keyboarding Grade 8	5.00
"Growing Healthy" Grade 6	1.00
"Growing Healthy" Grade 7	1.00
Family & Consumer Sciences Grade 6	4.00
Family & Consumer Sciences Grade 7	4.00
Family & Consumer Sciences Grade 8	6.00
Technology Education Grade 6	6.00
Technology Education Grade 7	6.00
Technology Education Grade 8	9.00

High Schools

Food, Nutrition and Health (9-10)	$10.00
Food and the Consumer (11-12)	10.00
Adult Living (11-12)	5.00
Textiles and Clothing I, II (9-12)	Purchase fabric
Introduction to Advanced Technology	10.00
Technology Today	8.00
Woodworking Fundamentals	10.00
Woodworking Technology	10.00
Metalworking Fundamentals	10.00
Metalworking Technology	10.00
Graphic Arts and Drafting Fundamentals	10.00
Graphic Arts and Drafting Technology	10.00
Automotive Technology	10.00
Photography	25.00
Business Procedures	8.00
Office Education	8.00
Keyboarding	8.00
Advanced Keyboarding	8.00
Word Processing	8.00
Information Processing	8.00
Desktop Publishing	8.00
Computer Applications	8.00

Central Campus

Automotive Technology	$20.00
Aviation Technology	30.00
Commercial Art Technology	10.00
Commercial Photography Technology	75.00
Drafting Technology	24.00
Electricity/Electronics Technology	12.00
Electronic Technology	12.00
Engineering Technology and Robotics	10.00
Graphic Arts Technology	10.00
Home Building Fine Woodworking	20.00
Home Building Structural	10.00
Horticulture, Animals, and Urban Lndscp.	15.00
Industrial Electricity Technology	10.00
Painting and Decorating Technology	5.00
Radio/Television Production Technology	20.00
Welding/Welding Related Technology	5.00
Accounting Specialist	12.00
Advanced Computer Technology	10.00
WordPerfect	10.00
Introduction to Health Careers	5.00
Nurse Aide	20.00
Practical Nursing (1st semester)	43.00
Practical Nursing (2nd semester)	25.00
Child Development Careers I	20.00
Child Development Careers II	30.00
Food Technology and Management I	12.00
Food Technology and Management II	8.00
Textile/Fashion Arts I	8.00
Textile/Fashion Arts II	8.00

Students who complete special personal projects as part of their coursework are also required to purchase the wood, metal, or fabric required.

Equipment

The equipment used in the Business Education programs consists primarily of computers and related equipment such as printers, scanners, overhead projectors and LCDs. Each middle school is equipped with one computer lab. Hoover, North, and Roosevelt are each equipped with two computer labs. Central Campus is equipped with three. East and Lincoln are each equipped with four. A typical lab consists of 24 student stations, 4-6 printers, and a teacher station. A teacher station consists of a computer, overhead projector, and LCD.

Equipment used in the Family and Consumer Sciences programs at the comprehensive high schools includes household equipment used by today's consumers. Utilizing federal funds, departments have recently updated equipment to include current models of sewing machines, sergers, microwaves, ranges, dishwashers, washers, dryers and numerous small appliances used by consumers in the home. The occupational courses at Central Campus include equipment used in the industry. The food technology and management program includes industrial food service equipment such as ranges, steamers, convection oven, refrigerators, freezers, stand mixers and other food service equipment used in restaurants. The textile and fashion arts department includes industrial sewing machines, sergers and professional pressing equipment. The health careers program includes a laboratory with hospital beds, bed stands, wheel chairs and other health care facilities to practice health care techniques prior to clinical practice.

In Technology Education programs computers, printers, and support equipment have been added to all graphics and drafting courses at the middle and high school levels. This enabled desktop publishing and computer aided drafting to be taught in all grades 6-12. Central Campus has received additional DOS computers in drafting technology, automotive and auto body technology, home building technology, electricity and electronics technology and Macintosh computers in commercial photography, graphic arts technology, radio and television technology, and commercial arts technology have been added. Additional computers and computer numerically controlled equipment (CNC) have been purchased for metals and woods technology courses at the high school level district-wide. A new course entitled "Technology Today" has been developed and installed at North and East high schools. This program addresses 16 programs at central campus and involves the newest of equipment for the related areas. New technologies are being taught in Technology Education; however, acquiring new technical equipment continues to be a stumbling block because of limited funds. Learning is enhanced when students use computers in the related areas. All staff members teaching in one of the foregoing instructional areas receiving computers have been in-serviced regarding the related curriculum. Additional equipment is continually purchased in order to maintain a standard similar to today's industries as the dollars allow.

Community Resources

All vocational education teachers are encouraged to use community resources in the delivery of instruction. Many invite guest speakers to their classrooms and others take classes on field trips to local businesses and organizations. Local businesses and organizations provide individual contributions in some vocational programs.

Applied Economics is a course offered to students in each of the area high schools. Junior Achievement of Central Iowa helps support the course in a variety of ways. Their most significant contribution is the recruitment and training of business consultants who spend one day per week in each Applied Economics class. Local businesses and organizations often make participation in the Applied Economics classes a part of the consultants job. The consultant training provided by Junior Achievement includes a review of the course objectives, suggested strategies for use in the

classroom and a clarification of the consultants role. The role of the consultant is to provide relevance to topics or issues addressed in the class by relating how the topic or issue impacts the local company or organization and the people who work there.

Over 100 local businesses and organizations assist with various vocational programs by providing workbased learning experiences to compliment classroom instruction. Vocational instructors work with students and employers to coordinate activities on the job and activities in the classroom to make both more meaningful and educationally productive experiences. The companies that participate in these programs are truly partners in the educational process.

1994-95 Vocational Education Budget

Revenue		% of Total Budget
State Vocational Reimbursement	$398,623	5.8%
Federal Carl Perkins Allocation	388,794	5.7%
Local District Funds	6,071,916	88.5%
Total Revenue	$6,859,333	100.0%

Expenditures		% of Total Budget
State Vocational Funds	$166,011	2.4%
Federal Carl Perkins Funds	388,794	5.7%
Human Resources	6,219,072	90.7%
Curriculum Development	23,956	0.3%
Instructional Materials	61,500	0.9%
Total Expenditure	$6,859,333	100.0%

PROCESS EVALUATION

It is the responsibility of the Supervisors of Business/Marketing, Family and Consumer Sciences./Health and Career and Technology Education to provide direction and supervision for vocational education programs as they relate to the district mission of the Des Moines Public Schools.

The vocational supervisors monitor each curriculum area. This includes coordination of curriculum development, textbook selection, program evaluation, planning, implementing, and evaluating program areas. Special needs programs, funded through Carl Perkins legislation, are also coordinated by the career education supervisors. All state and federal reports, grant proposals, and implementation and evaluation of vocational education are coordinated by the respective supervisors. The supervisors of Vocational Education report to the Director of Central Campus. Coordination of all vocational programs is accomplished in a cooperative fashion. Because a high percentage of the district's vocational education programs are located at Central Campus, the Vocational Education Supervisors work closely with the Director of Central Campus and the Council of Principals to maintain coordination of the scope and sequence for secondary vocational programs.

It is the responsibility of the vocational education supervisors to be knowledgeable of national and state trends in vocational education programming and to serve as a liaison for the district in articulating program offerings to postsecondary institutions, K-12 districts seeking shared program agreements, apprenticeship training programs and the employers in business and industry.

Supervisors complete the following tasks:

- Coordinate the Career Vocational Advisory Committee(s) in providing input to the district for implementing state and federal regulations while including community concerns.
- Coordinate and facilitate articulation agreements for vocational programs with apprenticeship programs, community colleges, and develop and implement shared program agreements with Area XI school districts.
- Serve as liaison to the Department of Education for the implementation of vocational education standards and federal vocational education legislation (Carl Perkins).
- Coordinate curriculum updating and textbook selection for the various program areas
- Develop and implement measurement systems for student accomplishments in related competencies and academics, grades 9-12.
- Evaluate programming
- Assist schools with their respective building improvement plans regarding vocational education programs.
- Arrange staff or staff in-service meetings to assist teachers in remaining current in their respective areas.

The supervisors of vocational education pay close attention to the following goals for improving programming for the students enrolled in vocational programs.

- Engage students in the application of math, science, reading, and writing for outcomes.
- Show students the importance of technology and technological literacy.
- Assist students in developing an understanding of consensus building.
- Involve students in processes for applying problem-solving and critical thinking techniques.
- Involve students in processes for developing and identifying individual talents and channeling those talents into a team approach.
- Develop an understanding of the role and function of teams in the problem-solving process.
- Develop an ability to use basic data gathering and analysis tools when analyzing processes.
- Develop decision-making skills.
- Develop basic skills in technical equipment usage.
- Involve students in processes requiring thinking logically and sequentially.
- Involve students in processes for applying design, imagination, and creative abilities.
- Develop mental processing skills.
- Develop leadership, positive self-concepts, and individual potentials.
- Involve students in processes for making meaningful educational and occupational choices.
- Develop lifelong learning skills.
- Become a more sophisticated consumer.
- Think globally while acting locally.

Staff Development

All staff members are encouraged to become involved with professional organizations related to their specific area of expertise. Vocational Education instructors may receive money from building budgets, Phase III, and state and federal vocational dollars to attend professional activities. Teachers not having permanent professional teaching certificates must recertify requiring staff members to complete eight renewal units every five years. Staff members may participate in the following professional organizations:

- American Vocational Association (AVA)
- Iowa Vocational Association (IVA)
- Iowa Industrial Technology Education Association (IITEA)
- Iowa Council of Local Administrators (ICLA)
- National Association of Large City Directors of Vocational Education (NALCDVE)
- Iowa Association of Middle Level Educators (IAMLE)
- American Association of Family and Consumer Sciences
- Iowa Association of Family and Consumer Sciences
- Iowa Consortium for Adolescent Pregnancy Prevention
- American Society of Curriculum Development
- Iowa Business Education Association
- National Business Education Association
- Iowa Computer Using Educators
- Iowa Marketing Educators
- Business Professionals of America

Staff development activities for vocational education instructors is developed so staff members can receive instruction and develop skill in the use of new technologies and curriculum. Instructors participated in the following staff development activities.

Staff Development Activities - 1994-95	No. of Staff Participating
7th Annual Conference for Vocational Administrators	5
Adolescent Health Workshop - Family & Consumer Sciences	2
American Vocational Association (AVA) - Career & Technology Education	2
American Vocational Association (AVA) - Family & Consumer Sciences	3
Articulation - Business Education	18
Articulation in Technology Education - Career & Technology Education	15
August In-Service (vocational staff)	134
Cabnetware (Face Frame Version) - Career & Technology Education	7
Carl Perkins Measures and Standards - Career & Technology Education	33
Continuous Quality Improvement	25
Curriculum Overview - Business Education	17
DMACC Articulation Workshop - Family & Consumer Sciences	4
EMCO CNC (equipment & Software) - Career & Technology Education	5
Fashion! Workshop - Family & Consumer Sciences	12
FCS Educators Conference - Family & Consumer Sciences	26
FCS In-Service (program promotion) - Family & Consumer Sciences	32
FCS Make and Take - Family & Consumer Sciences	30
FCS/Health Nutrition Workshop - Family & Consumer Sciences	26
GRADS (3 various activities) - Family & Consumer Sciences	6
GRADS State Conference - Family & Consumer Sciences	7
Health Careers - Family & Consumer Sciences	3
High School Textbooks (textbook selection process) - FCS	28
High School Update (materials & curriculum, goal setting) - FCS	19
HS Instructional Materials - Family & Consumer Sciences	7
HS Staff (federal program review) -Family & Consumer Sciences	25
Human Growth and Development - Family & Consumer Sciences	13
Iowa Business Education Association Conference	7
Iowa Business Education Regional Conference	18
Iowa Computer Using Educators Conference (ICUE)	8
Iowa Finance Seminar - Family & Consumer Sciences	5
Iowa Industry and Technology Education Conference (IITEA) - Career/Tech	8
Iowa Nurses Association - Family & Consumer Sciences	2
Iowa Vocational Association Convention (IVA) - Career/Technology	3
March In-Service (district)	134
Measurement Evaluation in Middle School Keyboarding - Business Education	8
Measures and Standards - Business Education	21
Minnesota Education Computing Conference - Business Education	2
National Business Education Association Conference	2
Ohio Vocational Conference - Family & Consumer Sciences	6
Principles of Database Management Using FileMaker Pro - Business Education	11
State FCS Educators Conference - Family & Consumer Sciences	20
Tech Prep Conference	3
Techno Tools for Teachers - Family & Consumer Sciences	17
Technology Today - Career & Technology Education	10
Test Development - Family & Consumer Sciences	2
Vocational Education (TQM information) - Family & Consumer Sciences	140
When I'm Grown - Family & Consumer Sciences	2

Staff Development Objectives

The benefits of participating in staff development training and professional conferences are endless; however, the following are some areas supervisors expect to impact through a comprehensive staff development program:

- To increase staff awareness of effective strategies in dealing with special needs students.
- To increase staff knowledge of federal regulations
- To develop courses which address new technologies in the related areas of math and science.
- To encourage middle and high school vocational education instructors to expand their individual professional growth plans to include specific activities which increase their knowledge and skills in the following areas:
  a. new technology related to their specific course
  b. content area update
- To encourage instructors to become involved in building articulation programs with various community colleges and apprenticeship programs.
- To enhance instructors understanding of Iowa Vocational Standards, Carl Perkins, and Measures and Standards, including articulation between middle school, high school, Central Campus, and postsecondary institutions.

Supporting Activities for Staff Development Objectives

1. Fall In-Service.
2. Guest speakers.
3. In-Service during the work day and following the work day.
4. Building and departmental meetings.
5. Financial assistance provided to instructors to attend conferences, meetings, and classes related to goals and objectives established.
6. Materials related to goals and objectives provided to instructors.

Communications Within the Vocational Education Department

Supervisors of vocational education meet on a regular basis individually and with the vocational education staff as the need arises. Communication with instructors is accomplished through personal visits, phone conversations, memos, individual committee meetings, and newsletters.

Influence of Technology

Never has the need for technology-based education been more apparent than in this final decade of the 20th century. Technologically advanced devices proliferate at home, work, and at play, accompanied by sophisticated instruction manuals and complex control panels.

The responsibility of transferring technical knowledge to today's students, quickly and efficiently, is not new. As the 21st century dawns, however, new methods of fulfilling this responsibility are required. Students need to be prepared to make career choices earlier than ever before. They must be given opportunities to actively explore a variety of technological avenues, learning what does or does not appeal to them.

In today's high-performance, technological world, nearly everyone must be able to make decisions, decisions based on data. This data must be used to solve problems and provide direction

for continuous improvement. Through this process students become better at learning, managing, teaming, and becoming more productive.
In vocational education there is a need to present programs which addresses the challenge students are faced with when entering the world of work. Today's workplace requires skills and an understanding of technology. Students must have an understanding and a sense of application for technology, including reading for interpretation and the application of science and math.

The influence of technology on staff and instruction has been very positive and also very challenging. It has expedited the delivery of programming and the development of curriculum and it has created excitement for the students and staff throughout all of the programs. The challenge technology presents is in providing the hardware and software for the various programs and the staff development which is needed to train staff.

PRODUCT EVALUATION

The mission of vocational education in the Des Moines Public Schools is to provide an educational system utilizing community resources to meet the needs of a diverse population of students where all are prepared to become employable, productive citizens. Vocational education courses provide an opportunity for all students to develop knowledge and skills for their current and future roles as citizens, employees and family members. The diverse nature of the vocational curriculum provides opportunities for all students to be successful.

Strengths and Deficiencies

Strengths

Vocational education is well known for being a leader in practical, hands-on, activity based learning. Research shows that most students learn best when allowed to experience their learning through a variety of senses, vocational education allows students this opportunity through laboratory and work-based experiences. Students learn skills and then apply them in real life situations. Math, science and reading skills are learned in the classroom and then applied in a real setting as the students work in lab situations or on the job. Math skills are practiced as students calculate the amount of paint required for a home, the cost per serving of a meal, the final balance of a checking account or the blood pressure and temperature of a patient. Instruction is individualized for students of varying aptitudes and interests. The hands-on project oriented instruction provides opportunities for all students, at all levels. One student may design plans for a retirement community on the river while another student designs the floor plan of an individual apartment. Assessment is based upon individual students growth and most often involves a practical application of the skills and knowledge learned in class. Accounting students analyze business transactions, marketing students develop a marketing plan for a company, sewing technology students construct a garment, home building technology students build a home, nursing students care for patients. Students in vocational programs experience real life learning situations. Many have the opportunity for paid work experiences as a part of their educational program. These experiences benefit the student, the employer and the educators involved by providing ongoing contact between the business and education community.

Deficiencies

Overcoming the stigma attached to "vocational" courses continues to be a challenge for the vocational education courses. Many believe that vocational courses are not for students who plan to go on to college. Scheduling is also a major challenge for college prep students who wish to take the elective programs offered in vocational programs. Providing an opportunity for students to reactive academic credit while enrolled in vocational courses may assist those students who wish to take courses and still meet the academic requirements set forth by the colleges and universities. The need to integrate vocational courses with academics is one which is being addressed currently. The hands on learning in vocational courses also requires additional time for student involvement. It is difficult to accomplish this type of learning if classes are too short. Because many of the vocational programs are technology based the increasing use of technology causes a need for updated equipment and time for staff training. Availability of certified staff in vocational areas is becoming a real challenge as staff and programs change. Teacher certification issues must be addressed at the state level.

Instructional Success

Instruction in vocational education is measured through authentic assessment as well as traditional

academic assessment. All vocational education curriculums are competency based and students demonstrate their skills through projects, portfolios, exhibits, demonstrations, video presentations and work experience. Students in the home high schools and middle schools are assessed through evaluations developed by individual instructors and district -wide criterion referenced tests. Central Campus students are assessed using a competency certificate which is issued to each student upon completion of the program. The competency certificate identifies the level of specific skills that have been achieved by the student.

Vocational programs continue to serve a wide range of student abilities, and do so very effectively. There is opportunity for achievement of the special education student as well as the accelerated learner. Several students have shown their expertise at competitive events sponsored by local, state and national student organizations. All students are able to be successful learners through the hands on, individual approach utilized in vocational classrooms.

Certified programs are evaluated according to state and federal review processes and guidelines. Programs which meet state or federal certification guidelines include Automotive Technology (Automotive Service Excellence), Aviation Technology (Federal Air Administration), Practical Nursing, Nurse Aide and Child Development Careers (Child Development Associate).

Awards, Citations and Commendations

Vocational instructors have worked hard over the past four years to articulate programs and curriculums with post-secondary programs. Currently all programs have signed articulation agreements with community colleges, private institutions or apprenticeships. Students who successfully complete advanced levels of vocational programs may receive advanced standing in postsecondary programs related to their field of study.

Vocational students participate in various competitive events at the district, regional, state and national level. Awards are based upon demonstration of competencies needed in the workplace. The experiences of these competitions is an important part of the vocational program.

Vocational staff members received the following professional and civic awards during the 1994-95 school year:

Dave Dalbey, Marketing Instructor - President of the Iowa Marketing Educators
Chris Gammell, Family and Consumer Sciences Instructor - President, Iowa Association of Family and Consumer Sciences
Marilyn Gift, FCS - Iowa Family and Consumer Sciences Educator of the Year
Tina Johnson, FCS - Hyperion Field Club Women's Golf Champion
Donna Rusk, FCS - Educator of the Year for the Iowa Association of Alternative Education
Bill Springer, Career & Technology Education Instructor - Outstanding Teacher Award/KCCI

State and Federal Standards

State Standards for Vocational Education

The vocational education program in Des Moines Public Schools exceed the state requirements for vocational education by providing three sequential units of instruction in six vocational areas: Agriculture, Business, Family and Consumer Sciences, Health, Marketing, and Technology Education. All programs are competency based.

Federal Carl Perkins funds are received by the district. To receive these funds, programs n develop a written plan to address the state vocational education goals. The state goals are:

1. To provide support services to ensure full and equitable participation for special populations.
2. To integrate academic and vocational knowledge and skill development in sequer courses.
3. To increase the responsiveness of local programs to the labor market and emplc
4. To provide quality experience and instruction in all aspects of an industry.
5. To develop and improve linkages between secondary and postsecondary institu
6. To increase the capacity of vocational education to place students in jobs or con. education.

Outcomes

The vocational department is in the process of implementing a comprehensive plan to measu program effectiveness. This plan will measure student gain in academics and vocational competencies. The vocational staff participates in numerous staff development activities to current and competent in their field of expertise. Curriculum is constantly revised to keep p with the everchanging workplace. This includes the use of new equipment and technology as the use of new learning materials and strategies. Although the instructional materials cy remains eight years, vocational curriculum is updated annually as instructors work with ac committees and attend professional conferences and workshops.

Supervisors' Observations

1. Excellent teacher-student interaction is observed.
2. Students are actively participating in the learning process through hands-on rea learning experiences.
3. Teachers have established a positive learning environment.
4. Teachers and students seem to enjoy what they are doing.
5. Teachers use a variety of instructional techniques, including the application of technology where appropriate.
6. Teachers are professional, master teachers committed to increasing their skills knowledge.
7. Teachers voluntarily attend numerous in-service and curriculum meetings.
8. Teachers collectively write comprehensive curriculum guides.
9. Teachers share ideas and strategies freely.
10. Staff is available to students before and after school for extra work on projects.
11. Quality teachers are irreplaceable.

1994-95 Enrollment

Students in Vocational Education, grades 9-12	4,912
*Total enrollments in Vocational Education, grades 9-12	12,872

*Students may be enrolled in more than one vocational course during the year.

Disaggregation of High School Enrollment

	% of vocational	% high school population
Black	12	12
Asian	7	6.6
Hispanic	3	2.8
Native American	0.2	0.3
White	78	77.7
*Special Needs	62	47.1

*educationally and economically disadvantaged

Program Costs

Vocational programs require appropriate equipment and staff to facilitate the needs of the curriculum. Cost for these services are offset by funds received from the state for the operation of state-approved vocational programs. Additional funds are also received from Carl Perkins allocations and grants for GRADS and Work Start programs, as well as in-kind contributions from employers who work with and supervise students at the workplace. The input section of this report provides information regarding vocational program costs.

Program Improvements

The following improvements have been made within the last five years.

1. Addition of Technology Today curriculum at East and North High School. This curriculum incorporates technology, math and language arts objectives for students as they explore a variety of technology career areas.
2. Addition of computer labs for business education in each high school.
3. Expansion of the Health Careers program at Central Campus, including certified program for nurse aides, a joint course with DMACC in Dental Assisting and an introductory class offered at Des Moines General Hospital.
4. Expansion of the GRADS program for pregnant and parenting students to six high schools.
5. Addition of new equipment and instructional materials for all Family and Consumer Science programs.
6. Addition of a Child Development Associate certification program at Central Campus.
7. Training of vocational staff in the use of technology.
8. Collaboration with business and industry to incorporate CQI into the business and technology education curriculum.
9. Expansion of school to work opportunities provided for students in all vocational programs.

FUTURE PLANNING

Background

A national reform effort is taking place in vocational education. Des Moines has long been a leader in vocational education and continues to be at the forefront with new initiatives and programs which provide students with the best possible experiences and opportunities in learning for work.

Initiatives

The following ideas are currently being considered as a means to improve current programs and initiatives.

1. Name Change
   The title "vocational education" carries images of programs where boys work on cars and girls learn to cook and sew or become secretaries. Programs are deemed appropriate only for those who are not successful in the academic arena. Today's vocational programs require advanced knowledge and skills in academic areas as well as specific occupational skills. It is important that the stigma attached to "old vocational programs" be replaced with a new image and a new name.

2. Career Pathways
   The concept of career pathways involves restructuring the high school curriculum to create a system for students to focus on a career pathway relating to specific areas, for example a pathway in Communication or Technology. Courses in the pathway would focus on the development of academic skills and workplace competencies relating to this area. This concept is gaining momentum in Iowa with new legislation allocating resources for schools to implement the concept of career pathways.

3. Integration of academics
   The integration of academics with vocational areas goes hand in hand with the career pathway approach. Students learn best when learning is relevant to real-life situations.

4. Partnerships with business and industry
   As School to Work programs become more widely implemented throughout the system it is essential that partnerships continue to develop between business, labor, industry and other community organizations. Without the assistance and support from these stakeholders, programs will not develop to the level of excellence intended.

5. Articulation
   Cooperation between secondary and postsecondary programs provide excellent opportunities for students. These alliances have been initiated and must be developed and maintained so that students will be provided with a seamless transition from secondary to postsecondary programs.

6. Cooperative Staff development programs
   Staff development is essential for the continued improvement of vocational programs. These programs should be planned and provided jointly for vocational and academic instructors at the secondary and postsecondary level.

7. Time for staff development
   Adequate time for staff development must be a part of the school calendar if a desired level of program improvement is to be accomplished.

8. New Technology
Programs have been updated to include the use of new technology and curriculum. This update must continue.

9. Facility Improvement
As the technology is increased, facilities must be improved and expanded to support the use of new technology and teaching methods.