



# Capacity Development Report

FOR GRANTS CLOSED DURING:  
FEBRUARY 2000 TO FEBRUARY 2005



D R A F T

PRESENTED TO THE  
**MINNESOTA JOB SKILLS  
PARTNERSHIP BOARD**  
DECEMBER 5, 2005

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## 1. INTRODUCTION AND BACKGROUND

### Purpose

The goal of the Minnesota Jobs Skills Partnership (MJSP) Program is to act as a catalyst between business and educational institutions through training projects. The benefits of MJSP grants for Minnesota's educational institutions are qualitative and therefore complex. This snapshot provides an assessment of MJSP-funded capacity development at partnering training institutions and is intended to assist members of the Minnesota Jobs Skills Partnership Board in analyzing the potential of future grant proposals.

### Definitions

The American Heritage Dictionary defines capacity as the ability to receive, hold, or absorb; the potential for growth, development, or accomplishment. In this report, *capacity* is defined as any curriculum, equipment, knowledge, or relationships resulting from MJSP funds that would not have developed or evolved otherwise. *Curriculum* is the ability to continue grant-developed courses and topics after MJSP funding. *Equipment* capacity is evident in the residual physical capital purchased with MJSP funds that continue to benefit the training institution. *Knowledge* is the ability of an institution's instructors or coordinators to continue or further develop institution capability. *Relationships* (MJSPs acting as a catalyst) develop capacity, whereby MJSP grant partnerships continue beyond official grant activity.

### Scope and Parameters

This report analyzes the capacity development of MJSP grants that closed from February 2000 to February 2005. 174 grants closed during this period. Over \$30 million in grant funds were spent and over \$70 million in business and training institution funds were leveraged.

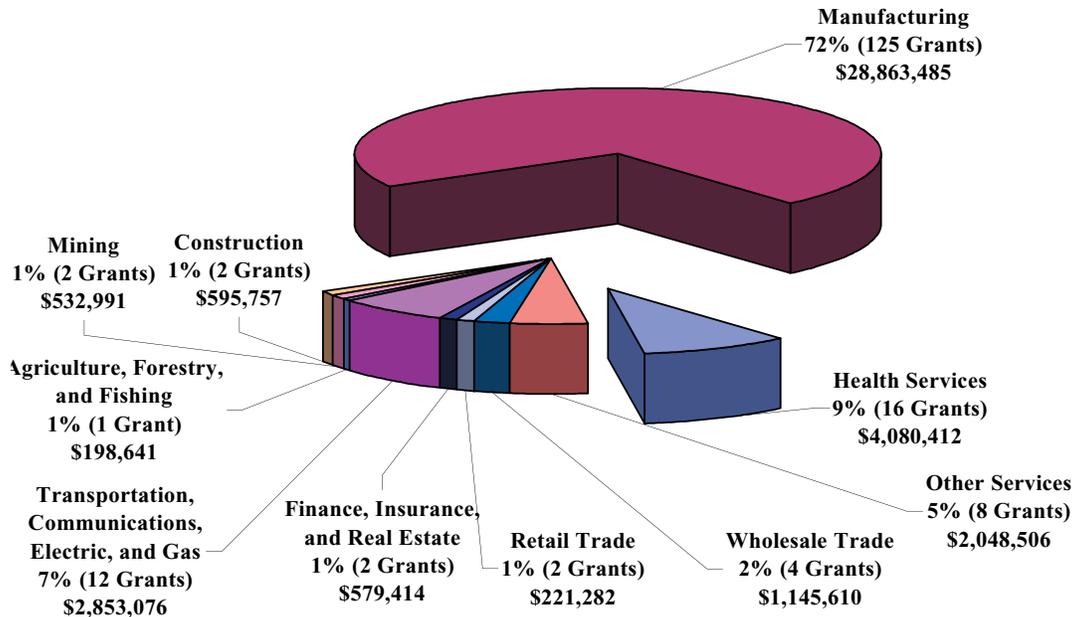
#### a. Financial Information

#### 174 Closed Grants from February 2000 to February 2005

MJSP	\$33,774,149
Contributing Business	\$61,991,654
<u>Training Institution</u>	<u>\$8,894,945</u>
<b>Total</b>	<b>\$104,660,748</b>

b. Grants by Industry

Graph 1: Grants by Industry\*



\*Grants sorted by industry of primary business

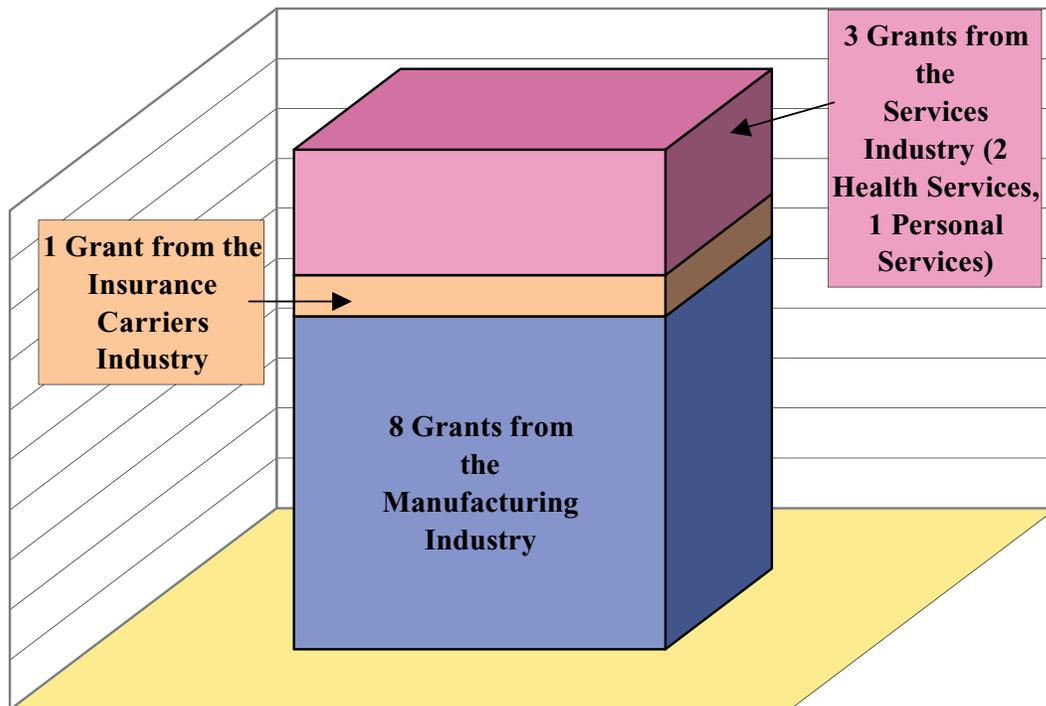
INDUSTRY	% of Grants	% of Funds
Agriculture, Forestry, and Fishing	0.6%	0.5%
Mining	1.1%	1.3%
Construction	1.1%	1.4%
Manufacturing	71.8%	70.2%
Health Services	9.2%	9.9%
Other Services	4.6%	5.0%
Wholesale Trade	2.3%	2.8%
Retail Trade	1.1%	0.5%
Finance, Insurance, and Real Estate	1.1%	1.4%
Transportation, Communications, Electric, and Gas Services	6.9%	6.9%

- 72% or 125 of the 174 grants were awarded in partnership with businesses in the **Manufacturing Industry**.
- 9% or 16 grants were awarded in partnership with businesses in the **Health Services Industry**.
- The number of grants and amount of funds awarded are roughly proportionate across industries.

## 1. INTRODUCTION AND BACKGROUND

### c. Grants Associated with New Business Facilities

Graph 2: Grants Associated with a New Business Facility\*: By Industry

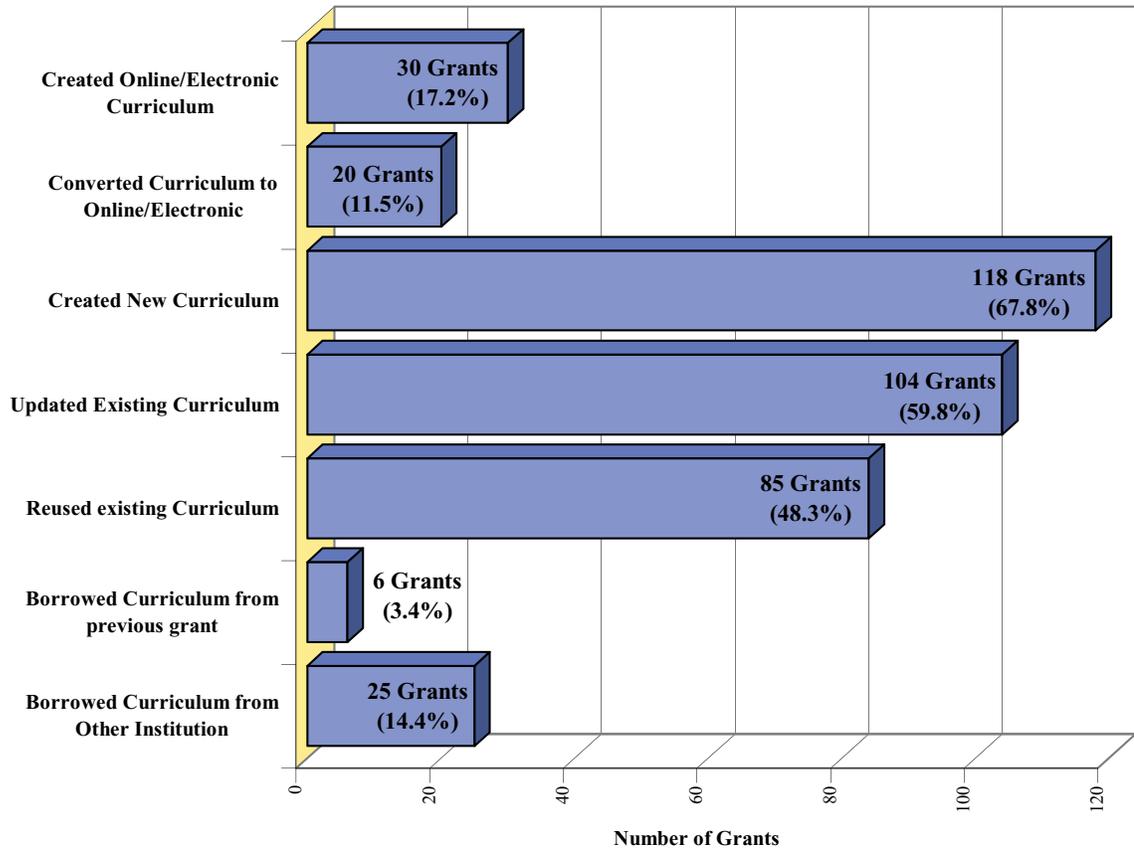


**\*New Business Facility:** This means that the grant was awarded to train workers for a new facility. For example, the recent Polaris Wyoming grant was awarded in association with the new R&D facility.

- **12 Grants** (or 6.9% of all 174 closed grants) were awarded to train employees from **businesses with a new facility**.

### a. Sharing and Development

Graph 3: Curriculum Sharing and Development

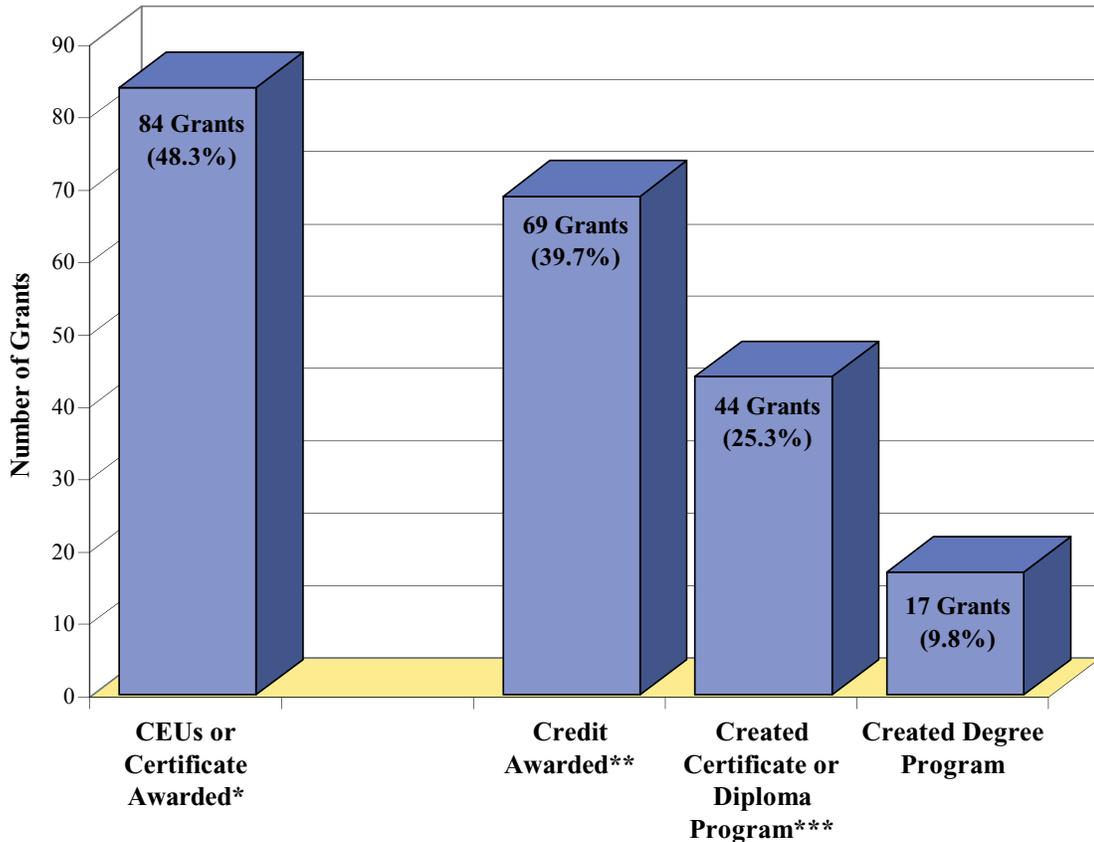


- 118 grants (or 67.8% of 174 grants) created new curriculum.
- 30 grants (17.2%) created online or electronic curriculum.
- 104 grants (59.8%) updated their existing curriculum.

## 2. CURRICULUM DEVELOPMENT

### b. Degree and Certificate Program Development

Graph 4: Credit, CEU, and Certificate Capacity Development



- 84 grants (48.3% of the 174 total) awarded CEUs, or indicated that trainees received a certificate of completion for non-credit instruction.
- 69 grants (39.7%) awarded academic credit to trainees for courses completed.

\***CEUs or Certificate Given:** Continuing Education Unit (CEU) or relevant certificate of completion given to trainees. (e.g., Many professions require ongoing CEU attainment to maintain professional certification.) This may include a simple certificate of completion as well as awarded CEUs.

\*\***Credit Awarded:** Academic credit was awarded to trainees.

\*\*\***Created Certificate Program:** Grants that created an academically transferable certificate or degree program that is credit bearing. (e.g., Trucking certificate, which translates to multiple businesses.)

### b. Degree and Certificate Program Development continued...

#### DEGREE AND CERTIFICATE PROGRAMS CREATED

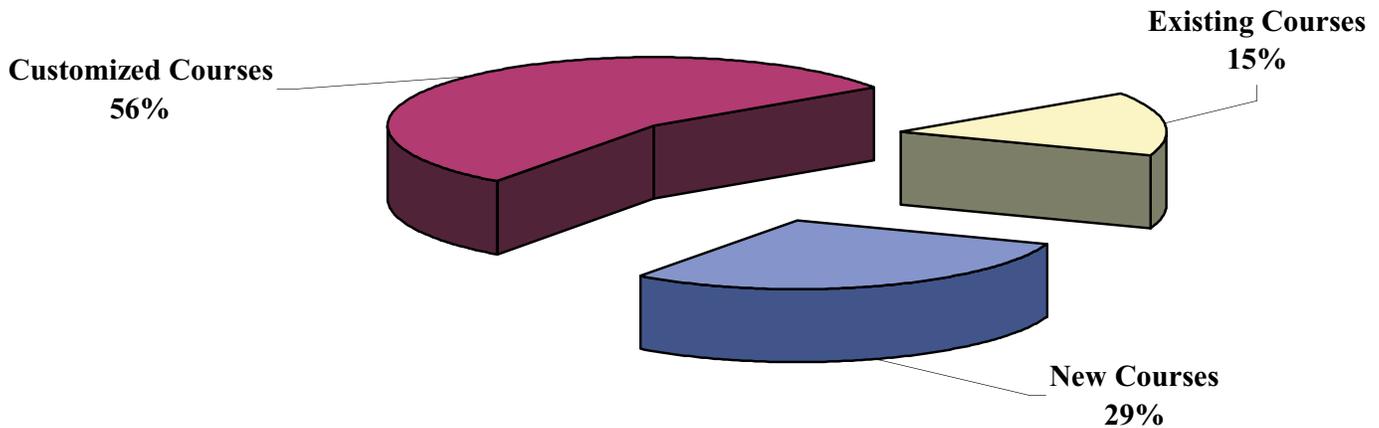
- **Alexandria Technical College**
  - ▶ Associate of Applied Science (AAS) Degree in Wireless Communication
  - ▶ Certified Extruder Certificate
- **Anoka-Ramsey Community College**
  - ▶ Medical Supervisory Certificate
  - ▶ Medical Management Certification
- **Bemidji State University**
  - ▶ American Plywood Association (APA) Quality Control Certification
  - ▶ Advancing Productivity, Innovation, and Competitive Success (APICS)
- **Central Lakes College**
  - ▶ AAS in John Deere Construction Technology
- **Century College**
  - ▶ Supervisory Leadership Certificate
- **Dakota County Technical College**
  - ▶ AAS Degree in Management for Technical Professions
  - ▶ Electrical Maintenance Technician Certificate
  - ▶ Electrical Contractors Certificate
- **Hennepin Technical College**
  - ▶ A+ Certification
- **Hibbing Community College**
  - ▶ Certification in Production and Inventory Management (CPIM) through APICS
  - ▶ Mining Heavy Equipment Operators Program
- **Inver Hills Community College**
  - ▶ AAS Degree in Network Technology
  - ▶ AAS Degree in Information Technology
  - ▶ Cisco Certified Network Associate Certificate
  - ▶ Cisco Certified Network Professional Certificate
- **Lake Superior College**
  - ▶ Pharmacy Technician Diploma
- **Minneapolis Community and Technical College**
  - ▶ E-Commerce Architecture Certificate
  - ▶ Web Development Certificate
  - ▶ Aircraft Electronics Technician Program
  - ▶ National Institute for Metalworking Skills Certification
  - ▶ Banking and Finance Certificate
- **Minnesota State College, Southeast Technical**
  - ▶ AAS Degree in Medical Secretary
  - ▶ RN Mobility Program
  - ▶ AAS Degree in Automation
  - ▶ Automation Applications Diploma
  - ▶ Basic Machining Diploma
- **Minnesota West Community and Technical College**
  - ▶ AAS in Process Plant Technology
  - ▶ Supervisory Management Certificate
- **Normandale Community College**
  - ▶ Semiconductor Processing Technician Certificate
- **North Hennepin Community College**
  - ▶ Microsoft Certified Systems Engineer Program
  - ▶ Microsoft Office User Specialist Certification
  - ▶ Web Development and Internet Design Certificates
- **Northland Community and Technical College**
  - ▶ Plastics Manufacturing Training Program
  - ▶ Manufacturing Principles Certificate
  - ▶ Manufacturing Continuing Improvement Certificate Program
  - ▶ Plastics Injection Molding Certificate
  - ▶ Robotic Arc Welding Certificate
  - ▶ Lean Manufacturing Certificate
  - ▶ Manufacturing Skills Standard Certification (MSSC) in Production Concentration
- **Northwest Technical College**
  - ▶ AAS Degree in Telecommunications Technology
  - ▶ Building Industry Consulting Service International (BICSI) Certification
  - ▶ Microsoft Office Specialist Certification
- **Pine Technical College**
  - ▶ AAS in Business Management
  - ▶ AAS in Retail Sales and Management
  - ▶ Retention Specialist and Management Programs
- **Ridgewater College**
  - ▶ AAS in Process Control (and certificate)
  - ▶ AAS in Automation (and certificate)
  - ▶ Injection and Rotational Molding Certificates
- **Rochester Community and Technical College**
  - ▶ AS in IBM Application System 400 (and certificate)
  - ▶ AAS in Computer Technical Support
- **South Central Technical College**
  - ▶ Diesel Truck and Bus Technology Diploma
- **St. Cloud Technical College**
  - ▶ Industrial Manufacturing Process Technology Certificate
- **St. Paul College**
  - ▶ APICS

## 2. CURRICULUM DEVELOPMENT

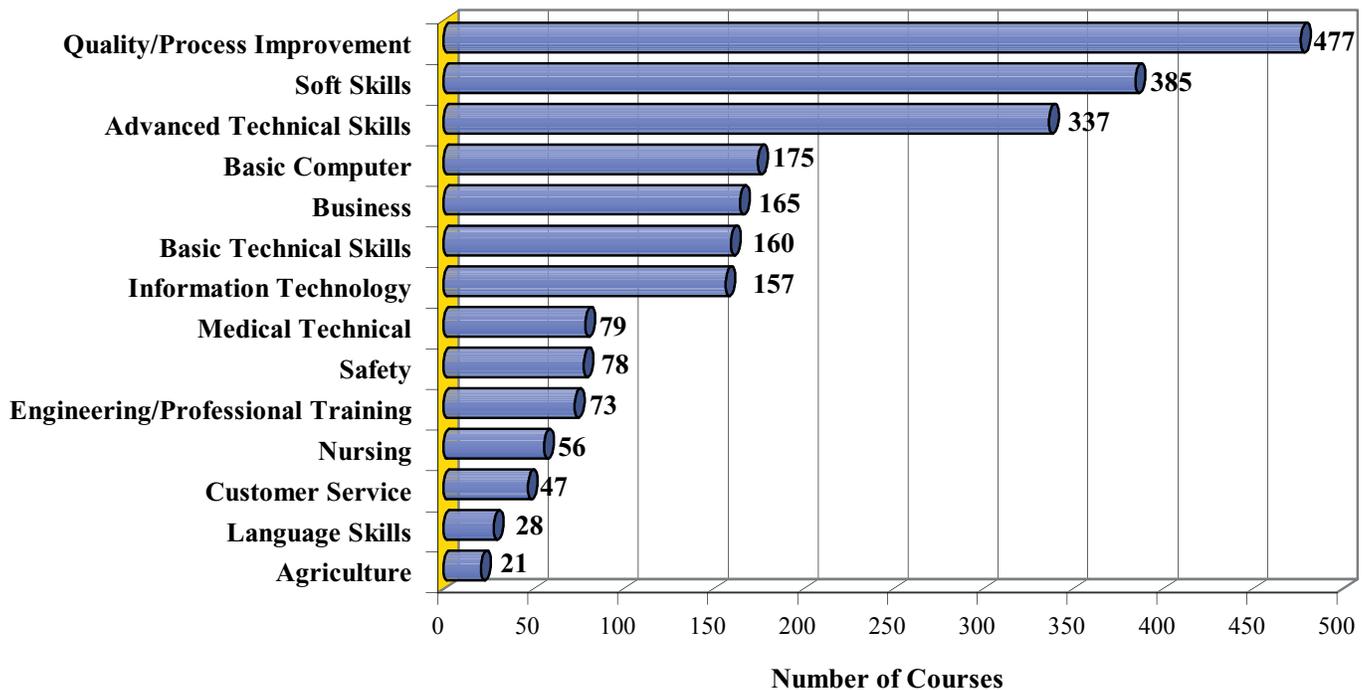
### c. Course Detail Information

Graph 5: Curriculum Development

New Courses: 659  
 Customized Courses: 1254  
Existing Courses: 335  
**Total Courses Funded: 2248**



Graph 6: Number of Courses by Topic (2248 Total)



## c. Course Detail Information continued...

<b>DEFINITIONS OF COURSE TOPICS</b>	
Quality/Process Improvement	Courses designed to directly improve productivity (e.g. LEAN Manufacturing)
Soft Skills	Courses designed to improve personal management skills (e.g. Teambuilding)
Advanced Technical Skills	Courses providing advanced knowledge of a topic (e.g. Welding)
Basic Computer	Courses for improving working knowledge of computers and basic software
Business	Courses pertaining to business administration (e.g. Management, Finance, Accounting)
Basic Technical Skills	Courses to provide a basic knowledge of a topic (e.g. Blueprint Reading, Industrial Math)
Information Technology	Courses directly related to computer science (e.g. Networking)
Medical Technical	Courses directly related to the medical field, but not nursing (e.g. CPR Training)
Safety	Courses providing training for emergency situations and a safe work environment (e.g. Safe Workplace)
Engineering/Professional Training	Advanced skills courses, not necessarily technical, or courses pertaining to engineering (e.g. CAD, Design)
Nursing	Courses directly related to nursing (e.g. Patient Care)
Customer Service	Courses designed to improve employee relationships with customers (e.g. Client Communication)
Language Skills	Skills designed to improve an individuals written or oral language skills (e.g. ESL)
Agriculture	Courses directly related to Agriculture (e.g. Animal Management)

### **SUCCESS STORY: WORLD TRAINING CENTER**

#### **Inver Hills Community College - Inver Grove Heights**

MJSP capacity development at Inver Hills Community College (IHCC) is a textbook example of the capacity goals of MJSP grants. As a result of MJSP grants, IHCC has become a Cisco Training Academy; developed an ongoing associate degree; developed three high tech computer labs; and has been designated as a Minnesota Center of Excellence in Computer Network Technology.

IHCC became a Cisco Training Academy - one of five in the world - because of two MJSP-funded certification programs: a Cisco Certified Network Associate (CCNA) and a CCNP (CCN Professional). As a training academy, the creation of these two certifications were instrumental in the development of an associate of applied science degree in network technology and security, which is now part of IHCC's open enrollment catalog. These information technology programs have strongly benefited Minnesota's – and particularly the Twin Cities' – labor market. Companies, such as Thomson West, have relocated their IT professionals from across the country to Minnesota because of IHCC's strong IT training programs, and IHCC has provided IT instructor training for colleges throughout the world.

Along with these programs, MJSP grants have sponsored three computer labs, which are some of the most advanced training labs for IT professionals in the United States. All of these capacity successes were instrumental in the selection of IHCC as a Center for Excellence. In addition, IHCC's partnership with Gold Cross and Allina has resulted in ongoing customized training contracts for emergency medical staff, leveraging \$150,000 annually.

### **SUCCESS STORY: NEW CERTIFICATE AND DEGREE PROGRAMS**

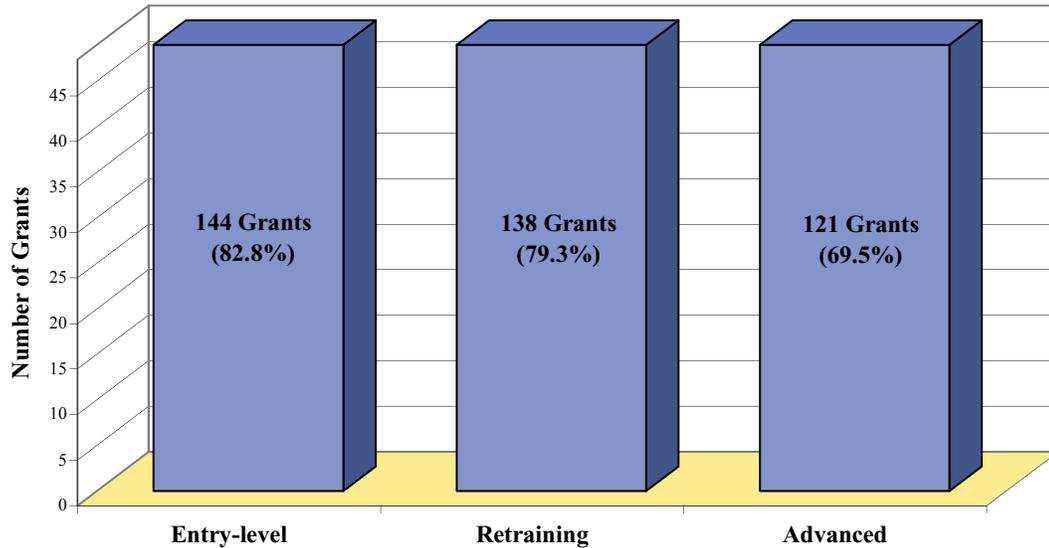
#### **Bemidji State University - Bemidji**

Customized training staff at Bemidji State University (BSU) strategically develop grant-funded curriculum to last for years. Since no financial profit is given back to the university, newly developed curriculum responsive to the needs of the business community is viewed as the return on investment. In many cases, the courses developed from a grant are made available for open enrollment. Several degree and certificate programs have been created from BSU grants. American Production and Inventory Control Society (APICS) Certification was created from a MJSP partnership with Polaris and TEAM Industries. A Bachelor of Science in Engineering Technology is in the process of being created, where curriculum from several grants have been incorporated. MJSP grants have served as a vehicle for creating these new certificate and degree programs.

BSU has also been a leader in curriculum sharing and has developed a strong working relationship with Northwest Technical College (NTC), also in Bemidji. BSU views sharing as a way to tap into the capacity of sister institutions. In many BSU grants, curriculum was co-taught and/or co-developed by NTC.

## c. Course Detail Information continued...

Graph 7: Levels of Training

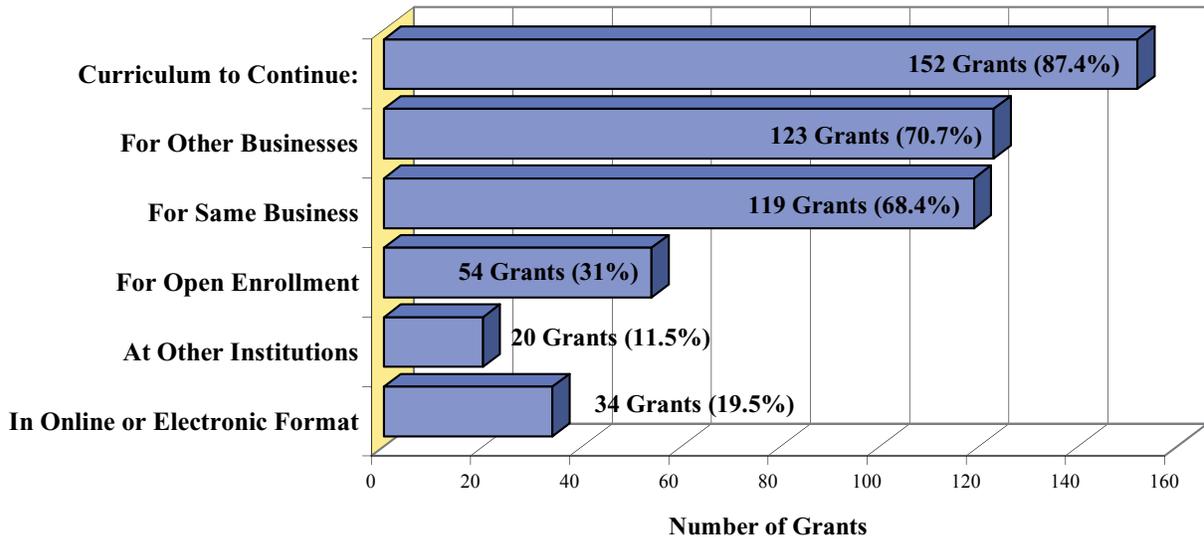


- 144 grants (or 82.8% of total 174) provided entry-level training.
- 138 grants (79.3%) provided retraining.
- 121 grants (69.5%) provided advanced training.

**Note:** Many grants offered more than one level of training. For example, one grant may have offered entry level, retraining, and advanced classes; another may have offered just entry level and retraining.

### 3. CURRICULUM CONTINUATION

Graph 8: Curriculum Continued to be Offered After Close of Grant



- The vast majority of grants (152 or 87.4%) anticipated continuing the use of grant curriculum.
- The majority of curriculum continuation by customized training departments was anticipated for other businesses (70.7%) and the same business (68.4%).
- 54 grants (31%) planned on offering curriculum developed by MJSP funds for open enrollment, with 34 grants (19.5%) to continue in an online or electronic format. Online or electronic format means courses that were created for online instruction or with an electronic module (e.g. instruction videos, computer software developed for training).
- 20 grants (11.5%) planned on sharing their curriculum with other institutions. This was usually the case for grants that had a curriculum partnership with another institution in the grant.

#### **SUCCESS STORY: HEALTHCARE PARTNERSHIPS**

##### **Anoka-Ramsey Community College - Coon Rapids, Cambridge**

Anoka-Ramsey Community College's (ARCC) strongest success story lies in the partnerships and/or private leveraged contracts that have continued long after MJSP-funded activities ended – with Data Sciences, Possis Medical, Cambridge Health Care, and Mercy Hospital. MJSP partnerships also resulted in the expansion of ARCC's Biomedical Technology Degree Programs and ARCC's RN program is now available at their Cambridge campus.

Grant activity also helped ARCC develop a Biomedical Technologist Associate of Science degree and a Biomedical Technician certificate, which is now offered at Normandale Community College and Inver Hills Community College. Several MJSP developed courses are now available for open enrollment. They include Cardiovascular Anatomy and Physiology, Internet for Medical Professions, and Healing Coach courses.

#### **SUCCESS STORY: REPLICATED CUSTOMIZATION**

##### **MNCDC's Teamworks, Inc. - Park Rapids**

In the last five years, nine Minnesota Jobs Skills Partnership (MJSP) grants have served MNCDC's Teamworks, Inc. by offering an otherwise unavailable source for curriculum research and development. Many companies in northern Minnesota cannot privately finance curriculum development, while they may have the ability to pay for existing training. MJSP grants have served Teamworks as training pilots, where customized curriculum continues to be offered to these companies long after these grants have finished. For example, machinery-related curriculum developed through MJSP grants resulted in an ongoing training relationship with Lamb Weston RDO of Park Rapids, leveraging up to \$70,000 a year for Teamworks.

Curriculum developed through MJSP grants has also been offered to small businesses through grants provided by the McKnight Foundation. MJSP Pathways grants have also served as a method to continue curriculum while assisting both low-income individuals and small businesses that would not have otherwise been able to pay for training.

#### **SUCCESS STORY: PORTABLE TRAINING EQUIPMENT**

##### **Dakota County Technical College - Rosemount**

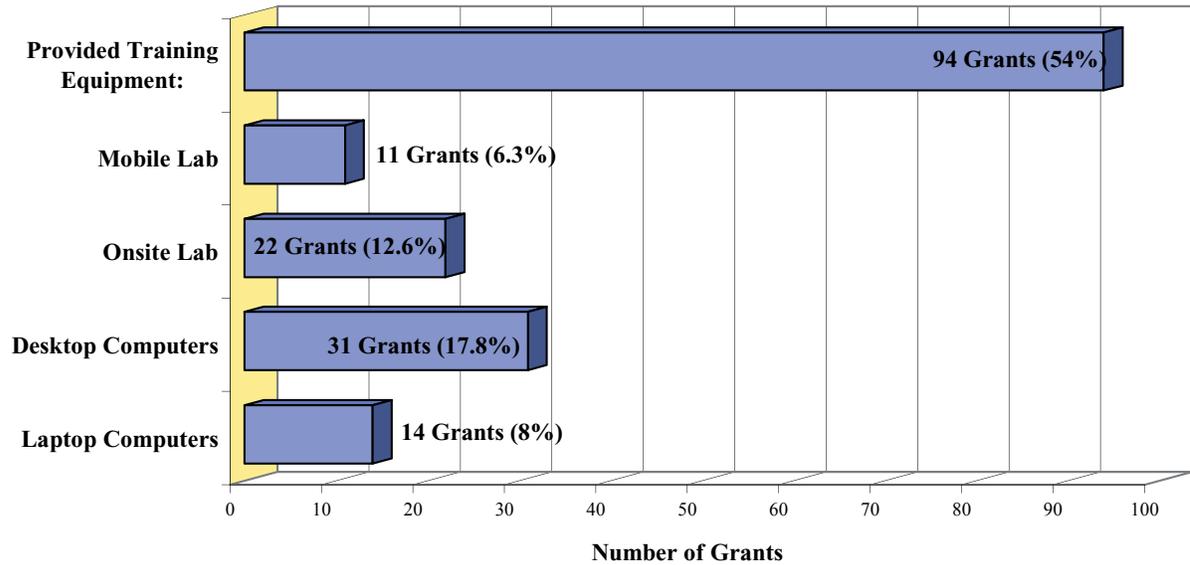
MJSP grants have built capacity at Dakota County Technical College (DCTC) through training equipment and curriculum - either continued for other private customized training contracts or for open enrollment. Programmable Logic Controller (PLC) trainers purchased with MJSP funds have provided a huge return on investment. DCTC's PLC trainers are portable suitcases with a PLC computer inside - used to control sensors, motors, and pneumatic devices (i.e. traffic light systems and assembly line sensors). These PLC trainers have been used in MJSP grants, for dislocated workers and MFIP recipients, and customized training for companies ranging from Camp Snoopy to Koch's oil refinery south of St. Paul.

Two associate degree programs have come from MJSP grants. DCTC's partnership with North Star Steel resulted in an Associate of Applied Science Degree in Business and Professional Development, now part of their ongoing curriculum. DCTC also added an Associate of Applied Science in Electrical Construction and Maintenance to their open enrollment offerings as a direct result of the DCTC MJSP grant with 3M. The curriculum developed by all MJSP grants has been marketed and further customized on a private basis for numerous businesses.

## 4. EQUIPMENT AND STAFF CAPACITY

### a. Training Equipment Capacity

Graph 9: Training Equipment Capacity\* Building



- 94 grants (54% of total 174) provided training equipment to training institutions.
- 11 of those grants (6.3%) provided a mobile training center, and 22 grants (12.6%) provided onsite training labs.
- 31 grants (17.8%) provided desktop computers and 14 grants (8%) provided laptop computers.

### a. Training Equipment Capacity continued...

**\*Training Equipment Capacity:** New physical infrastructure that an MJSP grant can create for future use through mobile training centers, onsite labs, and computers. Below are some examples of mobile and on-site labs developed:

#### Mobile Lab Examples

- Extrusion Hardware Simulator
- Welding Lab Trainer
- Programmable Logic Control Systems (PLC Trainer)
- Precision Manufacturing Mobile Trainer
- Touch Screen Learning Stations
- Trench Safety Simulator
- Welding Simulator

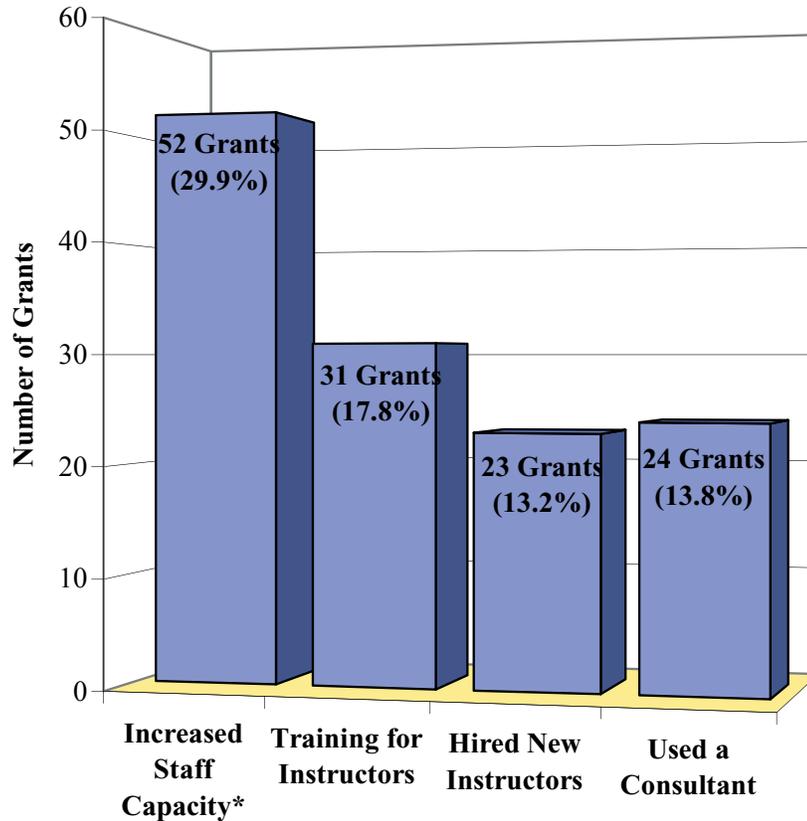
#### Onsite Lab Examples

- 44 Ton Plastic Press
- Auto Service Center Lab
- Computer Numerical Control (CNC) Plasma Machine/Cutter
- Computer Labs
- Distillation Simulator
- Electronic Test Equipment, Laser, and Robots
- Lathes and CNC Mills
- Nursing Beds and Mannequins
- OTC Robotic Welder
- Patient Simulators
- Soldering Lab
- Virtual Simulation Systems

## 4. EQUIPMENT AND STAFF CAPACITY

### b. Training Staff Capacity

Graph 10: Educational Institution Staff Capacity Building



Total New Faculty Hired: **39 Instructors**  
New Full-time Faculty: **21 Instructors**  
New Adjunct Faculty: **18 Instructors**

- **52 grants (29.9%) increased staff capacity** as a result of an MJSP grant. See footnote for definition of staff capacity.
- **1 grants (17.8%) included training for** the partnering educational institution's instructors. This means, that instructors themselves received training to offer new or advanced curriculum.
- **23 grants (13.2%) hired new faculty** (a total of 39 instructors). Of these new hires, 21 instructors were full-time and 18 instructors were adjuncts.
- **24 grants (13.8%) used a consultant** for delivering and/or developing curriculum.

\***Staff Capacity:** This includes upgrade training for existing instructors and the hiring of new faculty.

### **SUCCESS STORY: SIMULATION TRAINING**

#### **South Central College - North Mankato, Faribault**

South Central College (SCC) has provided customized training in trench safety to hundreds of businesses and over 50 fire departments as a result of a MJSP grant that paid for the development of a mobile trench simulator. This training has been provided in Minnesota, Iowa, Wisconsin, North Dakota, South Dakota, and Illinois, and it was the first in the United States in the development of hands-on safety training that actually simulates trench cave-ins and rescues. This simulator, which is built on a semi-truck trailer, has generated several hundred thousand dollars a year in private safety training contracts and a \$300,000 federal OSHA grant. Six full-time safety training instructors/coordinators have been hired as part of this training continuation.

SCC has also offered MJSP-developed curriculum for open enrollment - web development courses and plastics molding as an independent study.

### **SUCCESS STORY: STAFF CAPACITY BUILDING**

#### **Hennepin Technical College - Plymouth**

Much of the curriculum developed by MJSP grants at Hennepin Technical College (HTC) has continued through open enrollment and private contracts. Customer service in manufacturing, teacher effectiveness, leadership coaching for top-level managers, frontline leadership, and workplace safety courses have been incorporated into or are now part of HTC's ongoing curriculum. Leadership training developed from HTC's Honeywell Space grant has leveraged \$80,000 from Metro Dental Care for customized training. Online customized training in process control and occupational English that was developed and expanded in two MJSP grants have made HTC a leader in this new training niche.

HTC's capacity development from MJSP grants is perhaps best seen in their instructors' capacity. HTC hired two full-time instructors in online occupational English who are still employed over four years after the grant that brought them on as staff ended. In addition, many courses taught by full-time instructors have expanded their specialty knowledge for ongoing classes. Instructor and curriculum capacity at HTC is furthermore found in its partnerships with other schools, where over 12 MnSCU institutions have tapped HTC's capacity.

### **SUCCESS STORY: VIRTUAL REALITY TRAINING**

#### **Pine Technical College - Pine City**

MJSP partnerships were instrumental in the development of virtual reality training at Pine Technical College (PTC). PTC's Virtual Reality Center has provided customized training to companies from all over the world - ranging from China to Germany - to numerous companies in Minnesota. Many other MnSCU institutions, South Central College, Anoka-Ramsey Community College, and Northwest Technical College, have also utilized PTC's virtual reality training, leading to a National Science Foundation Grant in conjunction with the University of Minnesota.

Virtual reality training is more effective, faster, and safer for trainees, and PTC has become the only college to develop virtual reality simulations for industrial-based training, specifically welding and industrial spray painting. Capacity developed by MJSP funds at PTC has long since paid for itself and opened this institution to a lucrative, highly advanced and futuristic method of training.

## 5. CONCLUSION

### Summary

This report has presented strong evidence that MJSP grants have provided many instances of capacity development for Minnesota's educational institutions. The vast majority of MJSP grant-developed curriculum has continued to be a resource for Minnesota's training institutions as part of ongoing courses or customized training offerings. Physical infrastructure in the form of training labs, simulators, and other training equipment has built capacity and has been regularly used long after grants have closed.

### Greater Capacity Development in Recent Grants

It is important to note that there is a trend suggesting that more capacity was built in grants that closed after 2003 relative to those before. In addition, many grants with extremely strong capacity development potential have not yet closed. This follows the trend that more recent grant activity is at the caliber to create greater capacity development. This report does not examine these presently active grants because their capacity development is not yet realized.

There may be several reasons for the more recent capacity development strength. In 2001 and 2002 MJSP had relatively large funding allocations, and also during this period new relationships between MJSP and training institutions were created. Many institutions that now are some of our major partners received their first grants during this period. They have since improved and expanded their customized training offering potential, largely as a result of MJSP grants. This may have also been a result of increased business demand for customized training. A future capacity report examining grants beyond the focus of this report would be instrumental in further answering this question.

### Conclusion

The Minnesota Jobs Skills Partnership Program has developed a great deal of capacity at Minnesota training institutions, earning a significant economic and workforce development return on investment. Minnesota's educational institutions have expanded their curriculum, equipment, and expertise as a result of MJSP-funded customized training. This has enabled these institutions to develop demand driven training, helping to steer workforce needs of Minnesota's businesses. MJSP has done this directly through grants for specific businesses, but perhaps has done so more subtly through the expansion of these training institutions' capacity, thereby compounding the initial investment.





MINNESOTA JOB SKILLS PARTNERSHIP PROGRAM