

NDSCS Presentation to the Workforce Committee

John Richman, Ph.D.
President

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NDSCS

NORTH DAKOTA STATE COLLEGE OF SCIENCE™

Thank You

On behalf of NDSCS's faculty, staff and students, thank you for your willingness to serve as legislators and represent the citizens of North Dakota.

Your tireless efforts and challenging decisions this past session provided NDSCS with the best appropriated budget we have ever received.

To be able to increase salaries again for the next two years for our employees is rewarding.

To be able to freeze our tuition, and the increased student grants available will help keep our affordability more manageable for our students and their parents.

To be able to renovate one of our most important academic facilities, Horton Hall, will allow us to provide a much improved educational environment for our students, not to mention reduce our deferred maintenance expenses and become more efficient with our utilities.

To be able to increase awareness of our two-year colleges and technical careers to our young people and their parents will help this great state. The Community College Awareness initiative will build awareness and enhance the image of North Dakota University System two-year colleges.

So thank you - your work and your support of Higher Education does not go unnoticed.

Educational Attainment

Re-skilling of the USA

This past winter and spring I have participated in three national and one state forum pertaining to the importance of increasing the educational attainment of the citizens of the United States of America and North Dakota. The following is a partial list of associations or foundations that in part sponsored or participated in these forums:

- National Center for Higher Education Management Systems (NCHEMS)
- Center for Workforce and Economic Development, Washington DC
- Bill and Melinda Gates Foundation
- Center for American Progress, Washington DC
- Ewing Marion Kauffman Foundation
- Lumina Foundation
- National Governor's Association (NGA)
- American Association of Community Colleges (AACC)
- Association for Career and Technical Education (ACTE)

In addition, there were campus leaders from a number of states across the country.

Educational Attainment

The central themes of these forums were:

1. The importance of increasing the number of US and North Dakota citizen's educational attainment,
2. Labor market trends in demand for skills and credentials makes postsecondary education more important for people now in or entering the labor force,
3. Populations of adult workers with limited or no postsecondary education and younger, non-traditional students who do not fare well in traditional educational programs comprise a very large potential pool of students for sub-baccalaureate institutions,
4. Two year colleges are responding to this demand and to the populations in two major ways – increasing access and changing delivery methods – to meet the population's different needs,
5. To serve larger numbers and to achieve significant impact on rates of educational attainment; these “special designs” need to be cost effective, efficient, and above all find a place within the core operations of the college's infrastructure,
6. The traditional model of college is changing, and
7. Student's convenience is the future of offering courses.

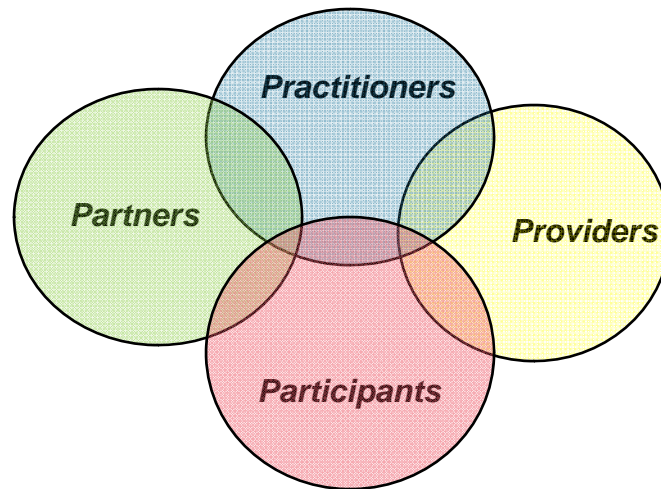
Educational Attainment

The central outcomes of the forums were:

1. Establish postsecondary goals and create a performance measurement system,
2. Increase funding based on college's performance in meeting key goals such as student credit production, credentials and degree completion,
3. Stimulate instructional innovations and practices to improve and evaluate practices enhancing sub-baccalaureate education, and
4. Enhancement of student data systems necessary to measure and track all students' outcomes, guide funding, improve accountability and promote continuous improvement in educational quality.

Entrepreneurship

Entrepreneurship Program Model



Participants – not quantity but quality, proof of success, timeliness, network

Practitioners – presenters, mentors, vocal champions, clients

Providers – administrators, maximizing effectiveness through the existing systems and services

Partners – Chamber of Commerce, local/regional/state government agencies, banks, public schools, law firms, etc.

Successful and sustainable entrepreneurial development requires considerable time and effort from many seemingly disparate groups successfully championed in the community.

Entrepreneurship

Entrepreneurship Program Checklist

Research, cooperation and innovation at every level are essential for success -

- Make sure you have secured the wholehearted support of your administration, staff and faculty.
- Work closely with area chambers of commerce and banks as well as local, county and state governments to maximize your resource base.
- Assemble an influential, experienced, and knowledgeable advisory board; their input, guidance, and feedback will be indispensable.
- Hire top-notch faculty with drive and business savvy – preferably instructors with in-depth experience creating and running successful entrepreneurial enterprises.
- Formulate a flexible, student-friendly curriculum, creating modules that will attract students from across the gamut of age, experience, and cultural backgrounds.
- Explore online combo programs that mesh convenient e-learning with vital face-to-face classroom time.
- Host a Small Business Development Center staffed by experts offering free business counseling.
- Energize and publicize your new program with a concerted marketing effort, marshaling the expertise and cooperation of area businesses, communities, and established entrepreneurs.
- Follow up with a potent networking operation that connects your program and its students to leaders and organizations on local, regional, national, and global fronts.
- Stay cohesive and grow together; enduring bonds formed between faculty, students, alumni, area businesses, and the community are the hallmarks of the best and brightest programs.

Entrepreneurship

Entrepreneurship Program Measureable Outcomes

1. Market Potential: Size of the target market – those who are or could become involved in small business.
2. Market Impact: Awareness of your Entrepreneurship Program.
3. Enrollment: Enrollment in your first core course on entrepreneurship, e.g., “Introduction to Entrepreneurship Program.”
4. Business Plan: Number of “entrepreneurs” completing Business Plan.
5. Business Activity: Number of businesses launched, acquired, franchised, etc.
6. Sustainability: Number of businesses in business over time (longevity), e.g., 1, 2, 3, 5 years.

These outcomes ultimately define, through these measures, what is expected and what is determined to be important.

Entrepreneurship

Business Incubator

A Business Incubator will strengthen the ties between local businesses and NDSCS. NDSCS can provide resources, quality technical instructors, space, and equipment. Small businesses can provide financial support and placement assistance. Together we become the “economic drivers” of our community.

We believe, in order to create stable economic growth, we must “grow our own.” We believe that economic growth is directly tied to business development, that business development is directly tied to entrepreneurship and that entrepreneurship is directly tied to the college.

Therefore, we are moving toward a “culture of entrepreneurship.”

Entrepreneurship

Business Incubator (Cont.)

Process:

1. We have hired a 30% Development Director with past Business and Partner Development Experience.
 - Working with departments - programs across campus to identify needs of the industry and how programs can align their department's goals and mission to achieve the identified needs.
 - In the process of creating Program Development training to help institute the processes necessary to identify, start and build mutually beneficial relationships.
 - Identifying current best practices in partnering and working to replicate and spread best practices throughout the campus.
 - Working to identify the best possible business advisors/mentors for each program's advisory group and establishing goals for the programs
2. We are providing Administration and Faculty the opportunities to learn about other higher learning institution Partnership successes.
3. Our program's faculty are continually working through associations and manufacturer's industry groups to identify the skills needed for that industries' future workforce needs.
4. We are communicating frequently with local economic and development organizations to work to meet the workforce training needs of local businesses.
5. We are conducting summer academies and workshops for educators and students to enlighten the participants to NDSCS and the high demand, high paying careers that are available in North Dakota.
6. We are becoming more flexible, willing and able to change our approach, delivery and expectations to align with our customers, business and industry. Just as business and industry has to adapt to change – NDSCS is adapting to a Culture of Constant Change.

Centers of Excellence

A REPORT

RURAL ECONOMIC DEVELOPMENT

TECHNOLOGY-BASED ENTREPRENEURSHIP
CORE COMPETENCIES
ADVANCED MANUFACTURING
COLLEGE & BUSINESS DEVELOPMENT COLLABORTION

WAHPETON, NORTH DAKOTA

PREPARED FOR

NDSU RESEARCH & TECHNOLOGY PARK
NORTH DAKOTA STATE COLLEGE OF SCIENCE
THE CENTER FOR BUSINESS DEVELOPMENT

PREPARED BY

IBDC, INC
SALT LAKE CITY, UTAH

JANUARY 2009

Centers of Excellence

Executive Summary

Overall Purpose of Report

The North Dakota State College of Science (NDSCS) and the Center for Business Development (CBD), both of which are in Wahpeton, North Dakota, have joined together to foster economic growth in their local area.

They both have complementary roles:

- The CBD has extensive networks and abilities to find new and existing businesses that need assistance – both business and in some cases technical – and can pass on to NDSCS the businesses that require technical training
- NDSCS has great ability to educate and train new and expanding business in advanced manufacturing

Regional Manufacturers Survey

- A survey was emailed to 589 manufacturing companies in North Dakota, South Dakota and Minnesota, with a 14.8 percent response rate
- The companies were categorized by broad industry segments for analysis purposes
- The survey contained 35 wide-ranging questions that focused on skill sets on which the companies did and did not need assistance
- The skill sets most in need for assistance were as follows:
 - Communications, Leadership & Teamwork and Basic Computer skills
 - CAD, CAM, Programmable Controllers, General Machining, CNC Programming and Print Reading

Centers of Excellence

Executive Summary (Cont.)

Advanced Manufacturing & NDSCS Core Competencies

- Advanced manufacturing is defined as the transformation of any substance into new products that incorporates new technologies, processes or management methods
- A core competency is something an entity does extremely well, is rooted in its culture and is of great value to the entities constituents
- NDSCS's core competencies were self identified and matched the questions in the survey, and were:
 - Machine Tooling, CAD/CAM, Welding, Electrical, HVAC/R and Computer Information Systems
- NDSCS's core competencies that matched the surveyed companies needs were basic math, algebra, trigonometry, and all areas covered by the following departments – Machine Tooling, Electrical, HVAC/R and Welding
- Eight skill sets were identified by the surveyed companies as needing strengthening and NDSCS did not identify these as core competencies
- NDSCS should consider establishing an Advanced Manufacturing Center that would clearly indicate its seriousness and through it regularly update state-of-the-art technologies
- NDSCS should continuously foster partnerships with private industry by providing a variety of relationships, including consulting and customized training – additionally, NDSCS will be applying for a Center of Excellence grant and will need private industry partners, and that process should start immediately
- NDSCS should consider developing an on-campus facility for visiting private industry executives and employees

Centers of Excellence

Executive Summary (Cont.)

The Center for Business Development (CBD)

- The CBD was established to help promote new and existing businesses in Wahpeton
- The demand for CBD services will come primarily from individuals who have a business concept but don't know how to commercialize it, and from existing businesses that want to expand or go in new directions and need expertise
- The CBD should understand the basics of business building
- A mission statement and objectives were suggested
- The CBD should have a formal screening procedure to get the most viable ideas to turn into commercial success
- The CBD should initiate a "launch" program to broaden its clientele base
- The CBD should form its own corporation so as to focus on building businesses

Centers of Excellence

Executive Summary (Cont.)

NDSCS & CBD Collaboration

- NDSCS and the CBD have complementary roles in furthering advanced manufacturing and economic development:
 - The CBD has extensive business contacts it can bring to the table and some of its new or expanding businesses may need training in advanced manufacturing from NDSCS
- Establish a Center for Entrepreneurship and Leadership at NDSCS
- Hold a joint annual business plan competition
- Create an Entrepreneur of the Year award
- The CBD and NDSCS should consider establishing incubators on the campus for start-up advanced manufacturing companies. The start-ups could take advantage of courses, students and faculty in their skill needs.
- The CBD should consider relocating its offices to NDSCS, where it would have visibility and a presence that could attract students and faculty to come to the CBD if they have ideas that may be able to be commercialized.

Educational Attainment

COMMUNITY COLLEGES IN NORTH DAKOTA The Next Step in Becoming More Accessible and Responsive CTEC Vision

The strategic plan for North Dakota's community colleges must address the following challenges: 1) the decline in the number of high school graduates in North Dakota, 2) the need for career and technical education programs in population centers, 3) the difficulty of gearing up to provide training to address the shortage of workers in certain fields, and 4) the effort required to develop new programming for emerging high-growth occupations.

Actions being proposed to address the challenges of becoming more accessible and responsive are:

- to provide population centers with greater accessibility to community college services, particularly associate degrees and career and technical education;
- to develop processes that facilitate greater collaboration with the state's universities;
- to create higher education centers where appropriate;
- to assign each community college to a specific region within which to focus its efforts;
- to provide programming that will focus upon growing occupations in the respective regions;
- to provide programming to meet the needs in smaller communities;
- to increase the flexibility of program offerings to meet the varying schedules and needs of a diverse clientele; and
- to increase the career and technical education program development pool to allow funding for new and emerging programs.

Through these strategies, CTEC will realize its vision to *establish by the year 2012 an integrated educational continuum through an associate's degree which allows each individual to utilize his or her education, training, and work experiences.*

Educational Attainment

Core Functions of Community Colleges

The greatest contribution community colleges across the nation make to higher education systems is to increase opportunities for individuals, businesses, communities and, collectively, entire states.

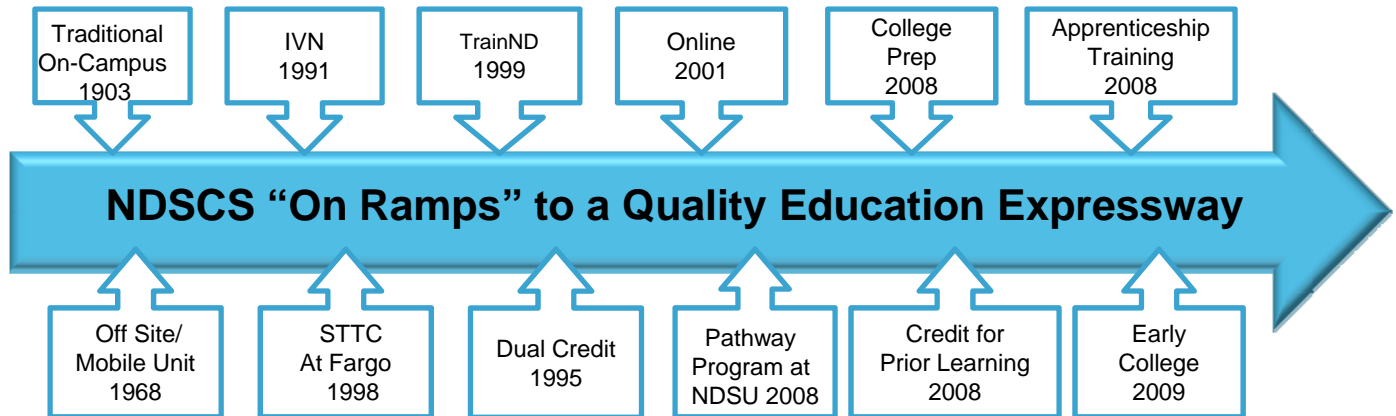
The six core functions and fundamental purposes of community colleges are:

1. to provide the first two years of a four-year degree;
2. to provide “occupational degrees” -- certificate or associate degrees-- to serve students wanting to enter the workforce with less than a four-year degree and to meet the rapidly expanding market demands for students with certificate and associate degrees;
3. to make higher education more accessible and affordable throughout the state;
4. to provide opportunities and special support including remedial and developmental learning activities to assure success for those who would not otherwise pursue a college degree;
5. to assume primary responsibility for the delivery of workforce training and seeing that workforce training needs are being met in the designated service regions; and
6. to enhance community and regional economic, social and cultural vitality and improve the quality of place essential to business development and life-long learning needs of individuals.

The efforts of the five community colleges within CTEC are focused on achieving these six core functions.

Access

The Future of North Dakota is a Well Skilled Knowledgeable Workforce



Serving North Dakota's workforce development and training needs

- Establish "on-ramps" which allow individuals to utilize their education, training and work experiences to obtain their desired educational goal
- Create varied and frequent entry and exit points that allow the individuals the flexibility to meet their personal needs and still achieve their educational goal
- Create stackable learning objectives/modules that when successfully completed allow an individual to obtain a certificate, diploma or an associates degree
- The next "on-ramp" being built is in the area of Adult Programming
- Each of these "on-ramps" require resources to create, implement and maintain

Programs Addressing Workforce Needs

TrainND 2009

Workforce Training – numbers served in the Southeast Region

Businesses Served	Employees Served
669	2,204
Satisfaction Rate 100%	Satisfaction Rate 98.9%

Southeast TrainND offers computer training, technical training, organizational training, soft skills training, apprenticeship training and pharmacy tech training. Much of what we do is customized to the needs of business and industry – so the volume in each area varies from year to year.

Programs Addressing Workforce Needs

The programming that NDSCS currently offers that match the state needs for fastest growing and most openings in the occupations listed in ND are:

Allied Health

Transportation

Construction

Manufacturing

Business/Computers

Programs Addressing Workforce Needs

2008 NDSCS Graduates

NDSCS graduates remain in high demand, receiving high salaries, having several companies and locations to choose from upon graduating, with the vast majority staying in North Dakota!

Employed in North Dakota	71%
Continuing education in North Dakota	37%
Total staying in North Dakota*	64%
Average jobs per graduate**	3.1
Average monthly beginning salary**	\$2,680
Placement rate**	95%

*Some graduates are both employed and continued their education

**Data based on students registered with the NDSCS Career Services office

- Employers reported 1,742 jobs registered at the NDSCS Career Services Office, an average of 3.1 jobs per qualified graduate seeking employment.
- NDSCS's top wage earner from 2008 had a beginning salary of over \$80,000.
- NDSCS graduates, on average, have less than \$7,500 in college debt.
- A NDSCS graduate from western North Dakota is currently working in a technical field back in western North Dakota earning over \$60,000.
- NDSCS workforce development and TrainND Southeast Region efforts are creating human capital for North Dakota.
- NDSCS is providing North Dakota with a highly skilled, well educated workforce.
- According to the North Dakota Career Resource Network 80% of all occupations can be entered through Career and Technical education.

Affordability

**Business and Industry Partnerships
Contribute \$4 Million Annually**



JOHN DEERE



MeritCare

Through these and other partnerships and relationships, NDSCS has effectively leveraged the College's resources. A conservative estimate of the financial impact of these relationships during the current year is \$4,000,000. **This industry support assists NDSCS in its efforts to remain current in technology and instruction. This industry support assists NDSCS in its efforts to maintain the costs to the students.**

Establishing, implementing and maintaining these partnerships requires time and resources.

Educational Attainment/ Access/Affordability

The Future at NDSCS?

Partnership

Partnership programs such as John Deere and Caterpillar must increase. Business and Industry must make a greater investment in their growth. NDSCS needs to allocate the resources to develop and manage these partnership programs.

Instructional Technology

Technology must be utilized to change the instructional delivery method, reduce the “butt in the seat time,” not to reduce class time but change the class structure, making information available for students 24/7.

Class Schedules/Packaging of Curriculum

Our current class scheduling model must be modified, stackable certificates, frequent start/stop points, multiple “on-ramps,” guaranteed course schedule, outcome based education.

Utilization of Existing Campus Space

Secure outside agencies to occupy, utilize, and/or rent our available space – senior living center, business incubator, training center.

Educational Attainment/ Access/Affordability

The Future at NDSCS? (continued)

Adult Programming

Structured and scheduled to better accommodate the adult aged learner. Cohort, very structured model, accelerated course work, advising is a key, simplify admission processes, increased financial aid must be available for the adult age learner.

Entrepreneurship Programming

Deliver the tools and knowledge needed for entrepreneurs and small business owners to find their own fortune.