The Education Industry Report: Workforce Issues and Linkages

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Research conducted by:
Margaret Bau, Research Fellow
Audrey Schuh Moore, Research Assistant
Timothy Sheldon, Researcher

Directed by:
Lee W. Munnich Jr., Principal Investigator
Director, State and Local Policy Program
Senior Fellow, Hubert H. Humphrey Institute of Public Affairs

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UNIVERSITY OF MINNESOTA
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*A Report on Minnesota Education by the State and Local Policy Program commissioned by the Minnesota Department of Children, Families, and Learning*

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MARGARET BAU
AUDREY SCHUH MOORE
TIMOTHY SHELDON
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INTRODUCTION

Today, the rate of change in technology and globalization are forcing forces that the rapid changes in America's economy and its society as a whole. As industries expand and markets change, individuals must develop new skills, adapt quickly, and seize opportunities. People increasingly require the skills of an individual with a job—enjoying career—they're in one place for a lifetime. Institutions and organizations of all kinds are grappling with how to respond to today's social and economic changes and the need for more educated, citizenry and skilled workforce.

The challenge for the "education industry" is to maintain the educational system of schooling while simultaneously improving school structures, methods, and relationships with other institutions. Each one must be improved if students are to have the opportunity to become lifelong learners, take on fully responsible, democratic citizens, and sustain themselves economically.

Research on brain development, learning styles, and the importance of a positive, early learning environment combined with technology and new educational approaches mean a possible transformation in the education system, from one based on an older industrial model to one that is responsive and innovative in the rapidly changing world.

One key factor in the transformation of any industry is having a highly skilled and motivated workforce. The education industry is no different than any other industry. In the workplace, teachers and administrators must be highly skilled and motivated for rigor to happen. This will play a critical role in preparing young people for the challenges of a new time and era.

Our ability to attract, prepare, and retain a highly qualified workforce is critical to the future of our young people as well as to Minnesota's civic and economic well-being. In the next five years, about one-fifth (1/5) of Minnesota's teachers will be retiring from the "education industry." This demographic shift, along with the overall structural labor shortage in Minnesota's economy, provides a window of opportunity to access the workforce to face Minnesota's "education industry" and chart a different course for ensuring a highly skilled, educated workforce to serve Minnesota's young people.

This report is a compilation of data and information obtained from interviews and focus groups, as well as previously produced quantitative and qualitative research. The research goal is to provide a "snapshot" of the issues facing Minnesota's education system, especially with regard to workforce issues and linkages that connect schools to other schools, colleges, businesses, and the larger community.
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INTRODUCTION

Today, the twin engines of technology and globalization are driving forces behind the rapid changes in America’s economy and its society as a whole. As cultural diversity expands, and markets change with breakneck speed, people must possess a greater capacity to learn quickly, work effectively in teams, think analytically, and solve problems creatively. Increasingly rare are the days of an individual holding one job – even one career – or living in one place for a lifetime. Industries and institutions of all kinds are grappling with how to respond to these social and economic changes and the demand for a more educated citizenry and skilled workforce.

The challenge for the “education industry” in this context is to maintain the educational aims of schooling while simultaneously improving school structures, methods, and relationships with other institutions. Each of these must be improved if students are to have the opportunity to become lifelong learners, take on fuller responsibilities as democratic citizens, and sustain themselves economically.

Research on brain development, learning styles, and the importance of a positive, early learning environments combined with technology and new educational approaches makes possible a transformation in the education system, from one based on an older industrial model to one that is responsive and innovative in the rapidly changing world.

One key factor in the transformation of any industry is having a highly skilled and motivated workforce. The education industry is no different than any other industry. Its workforce, teachers and administrators, must be highly skilled and motivated for education to happen. They will play a critical role in preparing young people for the challenges of a new time and era.

Our ability to attract, prepare, and retain a highly qualified workforce in the “education industry” is critical to the future of our young people as well as to Minnesota’s civic and economic well-being. In the next five years, about one-fifth (18%) of Minnesota’s teachers will be retiring from the “education industry”. This demographic bulge, along with the overall structural labor shortage in Minnesota’s economy, provides a window of opportunity to assess the workforce issues facing Minnesota’s “education industry” and chart a different course for ensuring a highly skilled educational workforce to serve Minnesota’s young people.

This report is a compilation and evaluation of data obtained from interviews and focus groups, as well as previously conducted quantitative and qualitative research. The research goal has been to provide a “snap shot” of the issues facing Minnesota’s education system, especially with regard to workforce issues and linkages that connect schools to other schools, colleges, businesses and the larger community.
State and Local Policy Program and Education

The Humphrey Institute of Public Affairs' State and Local Policy program was established in March of 1991. Directed by Senior Fellow Lee W. Munnich Jr., the program has focused most of its research in the areas of economic development, transportation, and telecommunications. From 1994 to the present, the program has conducted industry cluster studies throughout Minnesota.1

In the spring of 1997, the Office of Lifework Development of the Minnesota Department of Children, Families, and Learning (DCFL) and the Minnesota Association of School Administrators (MASA) initiated conversations with Munnich to determine if the industry cluster research framework could be applied to the "education industry." The Department's Office of Lifework Development later commissioned the State and Local Policy Program to conduct this study.

RESEARCH METHODS

In attempting to analyze a complex industry such as Minnesota's education industry, the researcher team had two main objectives. First, to interview key educational stakeholders (administrators, teachers, teacher educators, student teachers, business people, students, parents and community leaders) in Minnesota and ascertain what factors currently affect teacher training. Secondly, to examine the character of the linkages that exist among educational stakeholders. Linkages are the communications and activities that occur between two or more stakeholder groups. The Education Industry research team used two types of qualitative methods for data collection, focus groups and individual interviews. The project team also relied upon a 16-member advisory group. Advisory council members represented all key stakeholder groups and met three times during the course of the year to provide guidance and feedback.

During the first six-month period, from September 1997 through December of 1997, the research team conducted twenty-four focus groups in nine locations across the state of Minnesota.2 Each focus group consisted of between four and fifteen participants from specific stakeholder groups. From these focus groups the team generated a set of questions used for the individual interviews. Over 40 individual interviews consisting of executive directors of the different education associations, state legislators, community leaders, business leaders, teachers, and other persons were conducted between January and May, 1998.3 A special effort was made to interview both teachers of color and organizations representing people of color.

Researchers utilized the responses from focus groups and interviews in combination with advisory council suggestions and statistical data to confirm and enrich research findings. In sum, over 300 people participated directly in either the focus groups or interviewing portion of the study. All focus groups and interviews were transcribed and data were placed into matrices. Using these matrices and input

1 Industrial clusters are geographic concentrations of competitive firms in related industries that do business with each other and that share needs for common talent, technology, and infrastructure. These regional clusters are the source of jobs, income, and export growth within a region.

2St. Paul, Bemidji, Hibbing, Duluth, Alexandria, Redwood Falls, Mankato, Rochester, and Minneapolis

3 Individuals were selected by a combination of advisory council suggestions, researcher contacts, and other contacts developed throughout the study.
from the advisory council, the research team identified recurrent themes in the study.

The Michael Porter’s Diamond of Advantage

Michael Porter, Harvard Business School Professor, developed a new economic model in the 1980s. This model, known as the “Diamond of Advantage,” has been used to analyze groups of similar firms (industry clusters) in a geographic region for economic development purposes. In his book, *The Competitive Advantages of Nations*, Porter highlights the linkages and relationships between an industry and the institutions with which it interacts. Porter’s model is different from previous economic models because it argues that regional economic vitality depends on the competitiveness of local industries. In other words, the economic success of a region is not based on how cheaply a product can be produced but rather on the ability of the industry to produce a *successful* product. Porter also contends that successful industries are typified by their ability to continually innovate. He has identified four elements as key to continuous innovation:

1) **Factor conditions**, are the elements an industry needs to operate. Factor conditions can include the availability of workers, the skill levels of the workforce, and the skills needed by the industry. Factor conditions may also include elements such as adequate roads, transportation systems, telecommunications, and other support services, and sometimes selective disadvantages that drive innovation (e.g. the current labor pool, certain teacher shortages that allow people from other fields to teach in Minnesota using alternative licensing formulas);

2) **Home demand**, or local customers who push companies to innovate, especially if their needs or preferences anticipate global or local demand (e.g. parents, businesses, superintendents, and school boards who demand better quality education);

3) **Related and supporting industries**, local supplier or feeder industries (education departments, textbook publishers, University of Minnesota Extension Service [UMES]) that create new infrastructures and spur innovation and spin off industries (e.g. teacher preparation programs, continuing credit programs);

4) **Industry strategy, structure, and rivalry**, attempts to highlight the structural elements of an industry that effect rates of success or failure. For example, an organizational structure that encourages dialogue and innovation will likely have a competitive advantage over other firms that are structurally rigid. Industry rivalry attempts to determine if competition between firms stimulates innovation or aggravates attempts to acquire scarce resources (e.g. private and parochial schools, charter schools, alternative learning centers).

In addition to these areas, the Porter model includes the roles of the government and chance. Historical accident and/or government actions tend to play significant roles in the early development or location of local industrial clusters.

Porter maintains that all four components of his *Diamond of Advantage* model are responsible for the continuous innovation that allows industries to compete in the global economy. However, after conducting cluster analyses on 17 different industries in four regions of Minnesota, research performed by the State and Local Policy Program (SLPP) argues that all four
components may not be of equal importance at any given time. As economic and social priorities shift, the four corners of the model will be unequally emphasized.

For example, with the advent of improved telecommunications and transportation, Porter's factor conditions of a sophisticated labor pool, relevant training, and sufficient infrastructure have become the most crucial elements of an industry's ability to thrive in the knowledge-based economy. In 16 of the 17 industries studied by the State and Local Policy Program, factor conditions of workforce and training were the key elements of successful and innovative industries.

As companies and employees that work within an industry physically congregate, two dynamics that foster vitality in the entire industry may occur.

First, employees may be encouraged to specialize in their skills, thereby forming a highly qualified labor pool. Depending upon the culture of the industry, workers may move from firm to firm and thereby lead to an exchange of ideas. For example, in California’s Silicon Valley, the length of time an employee will work for one firm averages 18 months. Such rapid turnover can play havoc on human resource departments, but transfer and exchange of ideas among companies makes the entire industry more vibrant. This pooling of highly skilled labor and the transfer or exchange of ideas across organizations may offer Minnesota’s K-12 education industry valuable lessons about innovation to address the changing social, economic, and teaching environments.

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Second, long-term education and shorter-term continuous training are also key factors in determining an industry's ability to remain innovative. Many companies who participated in the California study as well as industry cluster studies conducted by SLPP spoke of the need for "just-in-time" training on specific topics particular to their operations or industry. Many companies have designed in-house training or have outsourced short and medium term training to consultants.

This study uses an economic model as a lens for examining the education industry since education faces similar workforce issues as other industries. By comparing and contrasting work force issues, the Education Industry Study seeks to strengthen linkages and improve teacher preparation among suppliers of education (higher education institutions) and the consumers of education (Minnesota’s K-12 education industry).

Limitations for the Porter Approach

Porter conducted his research in the late 1980s and utilized theories developed within the field of geography two to three decades earlier. One limitation in the Porter model is its failure to consider technological advances in transportation and telecommunications that diminish a firm’s need to remain in close physical proximity to one another. Companies are now able to keep in touch with customers via fax, communicate complex machinery specifications to
suppliers via the Internet, and deliver goods “just-in-time” via overnight express service. Technological advancement is occurring in the education industry as well. However, while the innovation has given rise to expanded communication in most industries, it has generally not been integrated into the education industry. Physical linkages among an industry's firms are still important, but those feedback mechanisms have evolved since Porter's research.

Another limitation to the Porter approach is that the model is based on competition in a market-based industry and it places government outside of the Diamond of Advantage. At present, Minnesota’s education industry is not based on a competitive, market-driven economics. Local school boards, the state, and the federal government play a large policy and regulatory role that strongly influence the dynamics of this industry.

While these limitations to the model are important to note, the model is a powerful tool in industry cluster studies for these reasons:

1. First and foremost, the model zeroes in on the workforce. The first element of the Porter model (factor conditions) emphasizes the critical import of a skilled workforce and the skills needed by an industry. This emphasis ensures there is an adequate supply of well-prepared workers, which allows the industry to innovate and remain viable.

2. Second, the education industry is rich with institutions and entities that in one way or another are linked. Porter’s model is useful in analyzing the interactions and linkages in industries.

3. Third, Porter’s fourth element (industry strategy, structure, and rivalry) is useful in determining how the structures, policies, and approaches drive innovation or cause deleterious effects to the firms in competition.

Ultimately, this means that the education industry must focus on its workforce (teachers and administrators), its customer base (school districts, schools, parents, and students), its suppliers (teacher preparation programs), its competition (other providers of educational services) and the lines of communication and actions that link them all together.

The Changing Social Reality of Minnesota

Demographics of Minnesota’s Students

Changes in Minnesota’s economic, demographic, and social indicators have been acutely felt in the schools. In the past three decades, both urban schools and schools in greater Minnesota have been called upon to provide many services beyond traditional academics. Quantitative evidence for Minnesota’s changing social reality, follows.

- For the 1996-1997 academic school year, one out of four Minnesota public school children qualified for free or reduced meals, an increase of nearly 40 percent since 1989-1990. This provides indirect evidence for rising levels of poverty in the state.

- Minnesota teachers report, and state statistics confirm, that more children are entering schools from homes where English is not the primary language. Over a seven-year period, children with
limited English proficiency increased by 158 percent statewide.

- Slightly more than 13 percent of all public school children were enrolled in special education in 1996-1997, a nearly 38 percent increase from 1989-1990.

- The Minnesota Student Survey has shown that one out of every three Minnesota students stated that they had experienced physical, chemical, or sexual abuse in their home in the year the survey was conducted.

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**In Minneapolis, the state's most populous school district, two out of three students qualify for free or reduced price meals.**

*Minnesota statistic*

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These demographic changes may not solely be responsible for the changing school reality. Nevertheless, they directly effect the school environment, changing the dynamics of the learning process and challenging the teaching workforce to develop new skills and knowledge.

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4 From the Minnesota Department of Children, Families and Learning Office of Information Technologies, Data Management Team 1998. Another report published by the Department of Children, Families, and Learning entitled “Student Expulsion in Minnesota” indicates that expulsion rates in Minnesota have been decreasing.


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**Research on Effective Schools**

Even if Minnesota was not experiencing the kinds of changes mentioned, education would continue to evolve as a result of expanding knowledge about teaching. For much of this century, education was premised upon a single teacher lecturing to a large classroom of students, memorization of facts outlined in books, and pencil and paper tests to demonstrate knowledge. Today, educators know more about how children learn. The Minnesota Education Effectiveness Program (MEEP), based on the work of Harvard Professor Ronald Edwards has spent more than $20 million dollars over the last 14 years to identify and implement characteristics of effective schools.

A recent report, published by the Center on Organization and Restructuring of Schools (CORS), concluded that improved student learning comes from a combination of interrelated factors. Research by Fred Newmann and Gary Wehlage collected data on more than 1,500 elementary, middle, and high schools, and conducted field research in 44 schools throughout 16 states. They found that the following four components were required for the successful restructuring of schools.

1) **Student Learning:** The core activities of schools including: curriculum development, instruction, assessment, scheduling, staff development, hiring, and student advising, must all aim toward a vision of student learning.

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This vision has three elements.

- **Construction of Knowledge**: Students learn to organize, interpret, and analyze information based upon previous knowledge rather than merely reproducing what they have been taught. Students also learn how to apply knowledge in real world situations. This theory referred to as “constructivism” had its origin in the renowned work of Jean Piaget, and more recently, Eleanor Duckworth and Howard Gardner. Constructivism has been expanded by the educational research of Howard Gardner, Grant Wiggins, and Richard Stiggins.

- **Disciplined Inquiry**: Using established knowledge in science, mathematics, history or literature, students develop an in-depth understanding. Students convey that understanding through written work and by engaging in discussion and debate.

- **Value Beyond School**: Students produce work or solve problems that have meaning in relation to the world beyond the school walls. This provides students with the opportunity to match their classroom accomplishments with its value in the outside world.

Newmann, Wehlage, and others argue that improvements in education must go beyond learning theory and target all aspects of the educational industry from pedagogy to managerial structure.

2) **Authentic Pedagogy**: Authentic pedagogy maintains that for teachers to be able to bring this new vision of student learning into the classroom, teachers must be taught a combination of different instructional techniques and assessment tools than they have utilized in the past. These techniques measure to what extent students are challenged to think, develop more in-depth understanding, and apply academic knowledge. Research indicates that students who learn in this way, learn more; however, it requires different teaching methods.

The Minnesota Graduation Standards and School-To-Work initiative require educators to utilize more student-centered pedagogy due to the nature of the “hands-on” content standards. Since teachers need this student centered pedagogical training, it becomes critical that teacher preparation programs emphasize the philosophy and its requisite skills. Examining whether teacher preparation programs provide this type of training was a focal point of the Education Industry Study.

Although there are recognized benefits to “authentic teaching” or “constructivist” learning, these approaches are not free of controversy, particularly with regard to teaching styles and content coverage. Some critics cite as obstacles the additional time it takes for students to “construct” their own knowledge. Others critics emphasize the difficult task of the teacher to evaluate what students learn and the content and quality of that learning. (Newmann, 1995).\(^7\) Anderson, Reder, and Simon (1996)\(^8\) argue that knowledge can be taught more efficiently using traditional methods. Hunt (1995)\(^9\)


points out that there are also many practical problems associated with planning and developing a curriculum around constructivist principles.

3) Organizational Capacity: To promote student centered learning, schools must continue to build the capacity of their staff to work together. CORS found that the most successful schools restructured themselves to work as “professional communities”. These schools found ways to help teachers work together, take collective responsibility for student learning, and improve their own teaching practices. Throughout the Education Industry Study, teachers and administrators noted a need to restructure schools to allow for more collaboration time and team teaching efforts among teachers and administrators so as to facilitate the implementation of the graduation standards.

4) External Support: Research affirms the complex environments in which schools are placed. Schools are responding to the expectations, regulations, and stimuli from external sources such as school districts, state and federal agencies, independent reform projects, parents, and other stakeholders. Porter’s model emphasizes the importance of dialog and collaboration between firms (educational institutions) if innovation is to occur. External support is vital to strengthen linkages among the stakeholders.
RESEARCH FINDINGS

Teacher Preparation, Attraction and Retention

Teachers play a critical role in the success of the education system, as a result, focus groups and individual interviews extensively discussed the role of teachers, as well as their preparation, attraction, and retention. Generally the research team found minor differences between the responses of public and private teacher preparation institutions. In fact, there was agreement on most key issues both within and across all stakeholder groups.

The central issues around teacher preparation can be summarized by the following questions.

How can we ensure beginning teachers are prepared for the classroom? And,

Who is responsible for that preparation?

The Reality of the Classroom Setting

Teachers and administrators who participated in this study repeatedly voiced the perception of the schools as a microcosm of their communities. They reported that educators are faced with the daunting task of teaching regular classes to an increasing number of students who have learning or emotional disabilities. Participants agree more children are coming from distressed backgrounds, highly mobile families, and other circumstances that impede learning. These students pose new challenges for administrators and teachers alike in education systems. A Catholic school administrator from northern Minnesota, however, was relieved that the school could ostensibly limit its role to academic education. Clearly, while many private schools are not facing the magnitude of challenges public schools are, most administrators and teachers from those schools reported an increase in behavioral and learning disabilities among their students as well.

Repeatedly, participants from nearly every educational focus group spoke of the widening gap between highly prepared students and students requiring intensive assistance. The brightest students are achieving greater levels of performance while the low achievers have never reached such dismal levels of demonstrated attainment.

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Teachers also agreed that they were being asked to provide guidance and assistance to students in areas that they did not feel qualified to provide. While the public perception is that only urban areas are experiencing these problems, teacher-participants throughout the state reported a dramatic rise in the number of students requiring non-academic services (counseling, medical and economic assistance, behavioral interventions). Some administrators who participated in this study stated that teacher preparation programs needed to provide coursework and fieldwork that would develop community-partnering skills (i.e. working with parents, social service agencies, and businesses). Administrators stated that teachers need to
acquire skills that help them to address the social and developmental issues that children are being faced with today.

How can we ensure beginning teachers are prepared for the classroom?

Preparation for Beginning Teachers

Stakeholders surveyed in the Education Industry Study agreed that while the preparation that teachers received in college programs was satisfactory, it did not adequately prepare them for the reality encountered in the classroom and school system. Educators in general, but first year teachers in particular, agreed that despite improvements in recent years, teacher education programs provided limited opportunities for interaction with students in the K-12 classroom.

Teachers in Minnesota also need to be well prepared to implement the new Graduation Standards. The school administrators that participated in the focus groups stressed the importance of preparation for Graduation Standards, but specifically highlighted the importance of performance assessments and the conceptual framework that supports the Standards. Further, school administrators also expressed apprehension that the teacher colleges were still not “on board” with the changes taking place in Minnesota’s K-12 education system.

Teachers and administrators also suggested that student teaching be broadened to include the comprehensive responsibilities of teachers, for example, interaction with parents, school policies, and school psychologists. Administrative and higher education focus groups also stated that student teachers needed to have greater exposure and demonstrated competence in the use of technology and in incorporating research on best practices into their instruction.

The overwhelming consensus among administrators was that student teachers need to have exposure to classroom teaching early and often in their college careers.

All participating stakeholder groups, including teachers themselves, recommended that teaching experiences begin in the freshman year in college for those who interested in teaching career and continue throughout teacher preparation programs. It was suggested that exploration of teaching as a career should begin in high school through school-to-work opportunities and other community experiences. The overwhelming consensus among teachers and administrators was that teacher-candidates need to have exposure to classroom teaching experiences early and often in their college career. Researchers who have studied student teaching have found that unless prospective teachers receive support from mentors and supervisory staff, the student teacher's early idealism rapidly gives way to personal survival – even desperation.10

Internships

Focus group teachers who participated in internships or residency programs cited greater autonomy and responsibility, and

10 Furlong and Maynard provide a framework for understanding five stages teachers pass through during the student teaching experience. Furlong and Maynard, Mentoring Student Teachers, "Stages of Student Development"
greater student, parent, and staff contact as strengths of their internships. Winona State University is one example of a college that has attempted to revise the practicum element of its teacher preparation program to meet the changing needs of teachers in public education. It provides student teaching experiences and classes concurrently throughout the student’s academic experience. This program design requires strong linkages between the teacher education college and the host school district. Higher education and administrator focus group participants believed that the program has been met with initial success in terms of the preparedness of teachers to enter the K-12 classroom.

Residency Programs

Minneapolis provides an example of successful residency programs. Data from the Minneapolis school district indicate that student teachers who participated in a one year residency program are better prepared for their first year of teaching, have stayed in teaching longer, and have had the opportunity focus on career development.\(^{11}\) Policy proposals at both the state and national levels have supported the development and expansion of internships and residencies.\(^{12}\)

Mentoring

All study participants (focus group members and interviewees) discussed the importance of continuing support for beginning teachers in the early years of their career. Inadequate induction of beginning teachers was identified as one of the five major obstacles to improved teacher practice according to the Report of the National Commission on Teaching and America’s Future, What Matter Most: Teaching for America’s Future (1996).

Veteran teachers can help new teachers develop and enhance their skills; efforts to support new teachers must also be the responsibility of the employing school. In efforts to help new teachers through their first few years of teaching, some districts, like the Minneapolis Public Schools, have created more extensive mentoring programs that pair new teachers together with supporting veteran teachers. Several focus group participants echoed the sentiment that, “In no other industry are new workers expected to be completely prepared to take on the full responsibilities of their position on their first day.”

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Teacher Participant

A mentoring approach is in keeping with the type of training businesses and industries engage in. As one business focus group participant observed, industries expose trainees to a short period of theory, immediately followed by the opportunity to apply this new knowledge in a hands-on environment under the supervision of an experienced employee. The process repeats itself until the employee is fully trained. New “industry” employees are also given a

\(^{11}\) Fifth year residencies are also recommended and part of the plan for a redesigned teacher preparation program in Minnesota. Restructuring Teacher Licensure System, Minnesota Board of Teaching, February 1995

\(^{12}\) What Matters Most: Teaching for America’s Future recommended that states develop and fund yearlong internships.
lighter workload. This is in stark contrast to the teaching profession, where new teachers commonly begin full time teaching as soon as they finish their preparation programs. They often teach the most difficult classes, are encouraged to take on extra-curricular responsibilities, and receive little mentoring guidance. New teachers are often exposed to a “sink or swim” attitude on the part of fellow teachers, principals, and school administrators. Focus group participants in higher education indicated that K-12 schools and the public tend to judge new teachers against veterans who have been in the field for many years.

Who is responsible for the preparation?

During focus group discussions, one of the unexpected findings for the research team were the divergent responses regarding who was to be responsible for teacher preparation. Higher education participants indicated that school administrators often expect new teachers to be completely prepared for their first year of teaching. On the other hand, school administrators believed that first year teachers were not fully prepared and elected to hire teachers who had been “seasoned with a year or two of experience.”

Administrators who participated in this study stated that new teachers, especially those with elementary school credentials, often gain initial teaching experience elsewhere (Florida, Texas, and California) and then return to Minnesota to teach two or three years later. The researcher team speculates that this occurs for two reasons.

- First, when surpluses exist in a specific field or grade level, teachers attempt to find work in other states or regions.

- Second, several administrators in greater Minnesota stated that they refrained from hiring first year teachers due in part to their lack of practical experience.

This may suggest that administrators choose not to use district funds for initial professional development.

Focus group participants from teacher preparation programs viewed the license as evidence of permission to practice, but not the end of a new teacher’s education. These teacher educator participants stated that skills and knowledge must grow and be renewed over time. Teachers need to continue their education to keep current with new teaching practices, knowledge, and technology. Several focus group participants argued that in other industries, employers do not expect entering employees to be fully prepared to face the challenges of a demanding job with such high responsibilities. School district personnel who participated in this study indicated that teacher preparation programs were not preparing teachers for the changing Minnesota classroom. One superintendent noted that, “few districts and colleges have even articulated their concerns to each other.”
**Teacher Attraction and Retention**

Among the concerns that were articulated over the course of the study process were issues of teacher attraction and retention.

Many educators have been willing to work under difficult conditions, because of their dedication to teach children. Still, the satirical advertisement below, voices the perception many educators (and would be educators) currently hold.

"**WANTED.** College graduate with academic major (master's degree preferred). Excellent communication and leadership skills required. Challenging opportunity to serve 150 clients daily on a tight schedule, developing up to five different products each day to meet individual needs, while also adhering to multiple product specifications. This diversified position allows employee to exercise typing, clerical, law enforcement, and social work skills between assignments and after hours. Adaptability helpful since suppliers cannot always deliver goods and support services on time. Must be able to work alone without consulting other colleagues. Typical work week 47 hours. Special nature of work precludes fringe benefits such as access to a telephone or computer, but has many intrinsic rewards..."

[Excerpted from a Columbia University briefing paper, 1994]

**Compensation**

Not only is it important to attract teachers into the field, once in the field, we need to keep them there. While strides have been made both in increasing salaries and benefits, all individuals and focus group participants interviewed believed that teachers were underpaid given the level of responsibility and time that teachers currently work. Repeatedly, teacher focus group participants perceived that the relatively low wages make it difficult to attract qualified individuals into the profession. This perception of teaching as a low wage profession is an issue that must be addressed if the industry is to attract an exceptional workforce for the future. In particular, teachers who are trained in math, business, computer, or industrial technology do not have strong financial incentives to stay in education. Frequently, they find higher paying jobs in business and industry. Statistical data indicates that wages for teachers have increased only marginally over the last decade, supporting the focus groups perceptions. Study participants believed that colleges continue to raise standards for admission into teacher preparation programs more people would continue to become teachers.

**Issues of Time**

Focus group participants from all stakeholder groups stated that teachers need to have the ability to focus more of their attention on the education of the students rather than classroom management or behavioral issues. Furthermore, participants indicated that too much time was often taken away from the learning of other students while teachers dealt with students having

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13 Digest of Educational Statistics, Department of Education, 1997
learning or behavioral problems. Many teachers recommended that administrators take more responsibility in working with problem students.

Several of the focus groups discussed the lack of time teachers have to reflect, prepare for courses, plan collaborations with other teachers, or even have a modicum of personal time during the course of the day. Teacher focus groups felt that they should have the same amount of discretionary time afforded to most other professionals. For example, physicians and lawyers have time to research cases and consult with others in the field. Similarly teachers voiced the desire to have more opportunities to collaborate with colleagues, reflect on problems their classrooms are experiencing, and seek advice from other teachers and administrators.

**Time for preparation, planning, working with colleagues, meeting individually with students or parents, or working on the development of curriculum or assessment measures is rarely available and not considered part of the teacher's main job.**

"[T]eachers' working conditions still reflect a conception of teaching as consisting primarily of instructing large groups of students, in isolation from colleagues, for most of the day." Almost everything else a teacher does is considered "released time" or "homework." Time for preparation, planning, working with colleagues, meeting individually with students or parents, or working on the development of curriculum or assessment measures is rarely available and not considered part of the teacher's main job. With the exception of most teachers' daily "prep period," often spent filling out forms and standing in line for the telephone or photocopy machine, teachers have virtually no planned time to consult with their colleagues on problems of practice."

**System Rigidity**

Teacher participants discussed two ways that system rigidity hindered their professional development. These obstacles can be divided in terms of salary plateaus and licensing obstacles encountered when moving between districts and disciplines.

Participants from teacher focus groups described the difficulty in moving between school districts after a certain number of years and wage attainment, because of the greater cost connected to hiring a teacher with greater seniority and experience.

Current licensing practices also curtail teacher mobility. Even in high demand subjects such as vocational/technical education, business, and math, it is difficult for teachers with equivalent skills and education to transfer into a new field without taking significant amounts of additional course work.

Numerous national studies have identified the need to eliminate current barriers to teacher mobility among disciplines and across districts. Through its current licensing practices, seniority policies, and incentive structures, the Minnesota's K-12 education system limits the movement of teachers across disciplines and districts, inhibiting the exchange of people and ideas.

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14 The Current Status of Teaching and Teacher development in The United States, Columbia University Briefing Paper, November, 1994 [http://www.tc.columbia.edu/%7Etechcomm/Brief0.html](http://www.tc.columbia.edu/%7Etechcomm/Brief0.html)
As previously stated, the movement of workers among firms in other industries allows for the transfer and exchange of ideas and adds an overall vitality to the entire industry.

**Through its current licensing practices, seniority policies, and incentive structures, the Minnesota's K-12 education system limits the movement of teachers across disciplines and districts; inhibiting the exchange of people and ideas.**

While the current teaching workforce finds it difficult to move throughout the system, it is even more difficult for interested mid-career individuals (teacher's aides, community experts, etc.) to come into the teaching profession without taking at a minimum one-year and a half of schooling. Teaching is a profession that requires knowledge and training in effective instructional methods. However, the manner in which teacher preparation programs are organized and implemented and amount of time required to attain a teacher license often deters these mid-career individuals from entering the field.

**In Minneapolis, the state’s most populous school district, 17 percent of the teachers are people of color which reflects the national average; however, nearly 66 percent of the district’s students are children of color.**

**Attracting Teachers of Color**

In both urban and greater Minnesota, there are few teachers of color relative to the number of students of color. One administrator in northeast Minnesota for example, noted the lack of Native American teachers on school staffs. In Minneapolis, the state’s most populous school district, 17 percent of the teachers are people of color while more than 66% of the students are students of color.\(^{15}\) Statewide, teachers of color constitute 2.5 percent of the teacher population while students of color make up 13.5% of the student population.\(^{16}\)

In contrast to the increasing heterogeneity of the K-12 classroom, colleges reported very few students of color in education programs. Overall teacher education programs in Minnesota described their student populations as predominately white and homogeneous. As the K-12 student population becomes comprised of an increasing number of people of color, students need to see a diverse teaching staff that more closely mirrors society.\(^{17}\)

As one teacher participating in an individual interview stated, students need to experience “windows and mirrors” throughout their education. All students need to have “windows” that open up to other cultures,

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\(^{15}\) Data from 1997-1998 year. Human Resources Department, Minneapolis Public Schools.

\(^{16}\) Minnesota Milestones Report, DCFL

\(^{17}\) Stanton-Salazar, Ricardo; Harvard Educational Review; Spring 1997, Vol. 67, No.1, pp.1-40. Stanton-Salazar found that differential value was accorded to youth depending on their backgrounds. Students needed institutional agents (teachers, coaches, and counselors) who help students to become effective participants in schools and other institutional spheres. Students of color benefited from institutional agents with backgrounds similar to their own.
and “mirrors,” in the form of professionals with whom they interact, that reflect back their own culture. One Asian-American teacher recounted a discussion with a Hmong-American student, who said he was so happy to have a teacher who had the same type of hair. This example connotes the positive contribution an adult with similar physical appearance or background may have on a child’s self-concept. Students regardless of race, ethnicity, or social background, need to have the opportunity to benefit from the experiences and perspectives of other racial, ethnic, and socio-economic groups. These experiences help prepare students for America’s pluralistic society.

Members of some communities would benefit from a personal contact from universities or school districts to promote the idea that their children could be teachers.

Hmong American Teacher

Focus group participants from colleges of education acknowledge that more emphasis needs to be placed on recruiting people for the teaching profession, especially people of color, but to date recruitment programs have not attracted sufficient numbers of candidates of color to mirror the heterogeneity of the classroom.

Minnesota is currently spending several million dollars each year on the “Teachers of Color” program for the purpose of recruiting and training more teachers of color for Minnesota classrooms. This is in part a result of the recognition that teachers of color from other states tend to leave the state after a few years. To address this situation, the initiative places new emphasis on “growing our own” teachers of color.

...students need to experience “windows and mirrors” throughout their education.

Japanese American Teacher

Teacher education programs that have successfully recruited a higher percentage of students of color have done so through creative programs. For example, St. Thomas University initiated the Collaborative Urban Educator (C.U.E.) program. This program was developed to prepare highly qualified individuals from under represented populations to teach in the Minneapolis and St. Paul public schools. The program recruits persons who have completed a bachelor’s degree in a field other than education and who have significant experiences with children in urban settings. They are expected to participate in a one-year, full time day and evening licensure program.

A Hmong teacher and C.U.E. program participant who was interviewed for this study indicated that some communities would benefit from a personal contact from universities or school districts to promote the idea of their children becoming teachers.

Respect for the Profession and its Results

Respect for the profession was another recurring theme throughout the course of the study. Focus groups and individual interviews stated that both the public and the media generally undervalued education and the work of educators. Teachers and administrators who participated in the study cited many instances of media highlighting
the failures of schools while simultaneously neglecting many of the accomplishments of Minnesota schools. For example, last year in one northeastern school district, all eighth graders passed the basic skills. But rather than reporting that specific success, the media chose to focus more generally on the poor test results statewide.

Overall, participants from all stakeholder groups felt that “education bashing” on the part of the media and politicians resulted in negative public attitudes toward education.

Interestingly, administrator and teacher focus group participants indicated that teachers themselves fuel this negativity. Both groups stated that teachers at times convey negativity about education through everyday conversations with those beyond the school walls. One administrator-participant described a teacher from another school who would regularly come home in the evening speaking badly of the school and the children. The administrator understood the frustrations to be unwinding from a difficult day, but speculated that non-educators might conclude that the teacher was “bad-mouthing” the school. Impressions such as these are passed on, fueling the negativity and misperceptions that surround public education in Minnesota.

Teacher focus groups and a leader from a professional teacher organization described numerous instances of teachers counseling young people not to enter the teaching field. Many teachers advise their own children not to enter the profession because of the work environment, long hours, lack of respect, and lower remuneration. In reality, teachers could be the best recruiters for the best and brightest students.

“Some teachers advise their own children not to enter the teaching field because of the hard work, long hours, low societal respect and low remuneration the profession offers.”

Northern Minnesota Teacher

In the end, the media, politicians, administrators and teachers themselves all contribute to public perception of education and educators. Collectively these same groups along with other educational stakeholders are the ones who can change the public perceptions of education.

Setting High Expectations for Admission into Teaching Programs

Higher education participants from the University of Minnesota-Duluth, University of Minnesota-Twin Cities, St. Scholastica, Mankato, and Gustavus Adolphus noted that colleges, that have raised their admission standards for their colleges of education, have experienced significant increases in the number of applicants. Many of these colleges have even had to establish selection criterion for admission to these programs. Current student teachers reinforced this finding and stated that colleges should “make it really tough” for teacher candidates. As one student noted, “Colleges should force applicants to go the extra mile if they really want to teach.” By raising standards and creating a larger pool of applicants, higher education can admit the best students into teacher preparation programs. Better teacher candidates will result in better teachers in the schools.
This example corresponds well to the industry model where those professions that have (or raise) high entrance expectations tend to attract the best and brightest candidates for employment.
Linkages

Definition of Linkages and Partnerships

In the business world, technology and the global economy are altering the structure of relationships among firms within an industry and the manner in which those firms communicate. This is also true for the education industry, where technology and market forces are changing the relationships and lines of communication between institutions within the education industry. While educational institutions in Minnesota have taken initial steps to improve the relationships, linkages, and lines of communication, much more needs to be done.

Linkages are defined as the communication processes and the activities that occur between two or more stakeholder groups. Linkages among Minnesota's pre-Kindergarten-post secondary education system require formal and continuous processes where information and feedback are passed between stakeholders. Unfortunately this is not typical in Minnesota's education industry.

Examples of differing perceptions occurred on many levels.

- First, misperceptions between stakeholder groups (such as between the business community and teachers or between school administrators and higher education professors) concerning the settings, training, and duties of others groups.

- Second, misperceptions within stakeholder groups (such as teachers from large schools and small schools) concerning the settings, training, and duties, and

- Finally, the research team found no clear consensus among study participants as to the roles and responsibilities of other stakeholders.

Perceptions of the Research Team

Regardless of where focus groups were held across the state, perceptions by one group of stakeholders about the activities of other stakeholders were usually sketchy, partially true, or outdated.

Perceptions of Linkages, Roles, and Responsibilities

The research team found that regardless of where focus groups were held across the state, perceptions by businesses, teachers, administrators, parents, teacher educators, and student teachers about the activities of other stakeholders were usually sketchy, partially true, or outdated. This is just one indication of the lack of effective communication across and between stakeholder groups. The research team considers this a key finding, since people's perceptions of others often determine the quality and extent of the relationships and the final outcomes.

Teacher Colleges and K-12 Administrators

The independent formation of America's K-12 system from its system of higher education has tended to create separate environments and often impermeable boundaries between the two systems. One result is that there is little system integration and communication. In fact, the majority of teacher colleges do not have a system in place to continuously solicit feedback content and design of teacher education curriculum from school administrators, current teachers,
business professionals, or community representatives as to the. It is evident from focus group discussions that the educational consumers (in this case, school administrators) have not clearly articulated their expectations to their suppliers (the teacher colleges) and vice versa. Several participants in administrative focus groups supported one school administrator’s experience that “…when we articulated concerns about teacher preparation to colleges, and suggested changes, our relationship with higher education ended.

“…when we (the school district) articulated concerns about teacher preparation to colleges, and suggested changes, our relationship with higher education ended.”

School Administrator

Several administrators and teachers indicated that geography influenced their relationships with the teacher colleges. Districts located closer to colleges and universities tended to have more relationships with each other than those located at a greater distance. For example, St. Cloud State University is working with the St. Cloud school district to improve teacher preparation programs through a recently established laboratory school. Bemidji State University is similarly working with Grand Rapids, a school district a little farther away. However, for many small school districts at greater distances from preparation programs there is very little connection between administrators/districts and teaching colleges.

Interestingly, regardless of geographical proximity or frequency of communication, teacher educators agreed that the concepts they most often incorporate into their curriculum or departmental policies result from their conversations with their national peers in academia, not from teachers or administrators at the grassroots level.

Teacher educators also stated that the K-12 sector should not place all of the blame on the teacher preparation programs for poor relationships between the two groups. As one participant stated, “We are part of the problem, but we are also part of the solution.” Focus group participants in higher education stated that all sectors within education need to analyze the causes of the problem and address those issues rather than blaming other individuals or groups. Still the debate remains about who should take the leadership role in initiating changes. In the higher education focus groups, many teacher educators stated that their departments should take the lead and initiate relationships with the schools. Other teacher educators believed that it was the responsibility of K-12 schools to initiate the relationship. A similar debate exists in the K-12 community as to who should make the overtures.

Unless the various sectors in the education industry effectively communicate their expectations to one another, and unless those expectations are incorporated into the daily practices, change cannot occur. This feedback and communication must flow in both directions between K-12 and higher education. Creating a greater link between education’s customers and suppliers would allow for a stronger and quicker response to the needs of the industry.
Buyer-supplier linkages are increasingly widespread in other industries. For example, General Electric recently developed a system whereby product design specifications are available on the Internet so that suppliers can access information quickly and respond to the production changes. This direct communication reduced response time and improved product quality. In Great Britain, web access provides detailed information about every school and shire (county). In Minnesota, the Department of Children, Families, and Learning has a continuously expanding website, which is providing useful information about test scores, incidence of violence, and demographic statistics. This method for sharing information is increasingly being used by families to make important decisions regarding their school choices.

"Unless the education industry as a whole effectively communicates its expectations to one another, and unless those expectations are incorporated into the daily practices, change cannot occur."

School Administrator

Graduation Standards and Accountability

Focus group participants from K-12 argued the need to set higher standards for high school graduation. But more generally, all focus groups agreed that higher standards were necessary for ALL learners.

At the time the focus groups and interviews were conducted throughout the state, many educators thought the Graduation Standards were a good idea in theory, but were struggling with implementation issues. The institutional reticence at the teacher college level at the time of the focus groups seemed to reflect the general state of confusion over Minnesota's Graduation Standards implementation. Today, Minnesota Law requires that all districts to implement the Graduation Standards and the rules for implementation have been adopted.

In focus groups, teacher educators stated that beginning teachers should not be expected to provide the leadership in Graduation Standards implementation since, these beginning teachers have not benefited from intensive training on the topic. Teacher educators indicated that the districts should play a role in instructing beginning teachers entering the district.

School administrators however, stated that they were not so concerned with new teachers knowing the exact details of the Graduation Standards, as long as they were prepared to work with performance assessments and student-centered learning. These differing expectations point out the need to clarify the roles and responsibilities of each stakeholder group.

To ensure the implementation of the Graduate Standards, some participants suggested a method of fiscal accountability, known as "charging back." This method would allow one institution to invoice the previous institution for essential remedial work or retraining. Teachers, administrators, and professors viewed "charging back" as a simple solution to a complex problem. Most educators felt that this policy proposal would be counterproductive to building cooperative linkages.

Exchanges

To improve linkages and ensure teachers and teacher educators understand each other’s respective environments, study
participants suggested that teacher educators teach in the K-12 classroom for extended periods of time. "They should also do this on a regular basis to keep current with the changing realities of teaching," as one school administrator stated, "College professors need to teach periodically in the K-12 classroom. And teach long enough to live with their mistakes." Periodic K-12 classroom experiences also allow teacher educators to share current educational problems with teacher candidates to better prepare them for the reality they will be entering.

"Neil Nickerson [emeritus faculty member at the University of Minnesota's College of Education and Human Development] participated in principal exchanges with school districts every five years," said one school administrator. Using this model, districts would benefit from the knowledge and experience of Dr. Nickerson. The school principal, whom Nickerson would replace, would have the opportunity to complete doctoral work at the University of Minnesota. Finally, Dr. Nickerson had the opportunity to re-immerses himself in the school environment. Students in the teacher preparation program enrolled in his classes because he brought to his teaching a serious dose of the reality that they would be encountering once they left the university setting.

"College professors need to teach periodically in the K-12 classroom. And teach long enough to live with their mistakes."

Minneapolis Administrator

Study participants further suggested bringing K-12 classroom teachers into college classrooms for the same reason that they advocate bringing business leaders into the colleges. Business-college linkages provide opportunities for teacher educators to learn how subjects such as mathematics are applied in the business world. This knowledge could then be passed on to beginning teachers. Exchanges among veteran teachers, higher education, beginning teachers, business leaders and administrators would bring out the strengths of each group and help address the issue of misperceptions among groups.

Teacher Colleges and Businesses

Teacher educators and teacher participants indicated that limited collaborations exist between higher education and the business community. The research team speculates that one of the barriers to these collaborations was the mutual suspicion evident during focus groups. In many cases, this suspicion was clearly articulated. For example, one dean of education related that,

"Literature and experience have shown that higher education needs to be leery of businesses because they tend to bring a biased perspective and interest."

Nevertheless, a number of collaborative efforts do exist between higher education and the business community. Most linkages take the form of business representatives serving on curriculum and development committees. Higher education participants reported that it is very difficult to work with businesses because the relationship is new and the goals of each group are not always clear. To address this issue, one higher education participant described the efforts of their institution to address this problem by conducting focus groups with businesses to try and understand
their needs. The participant believed this activity had gone a long way to improve their collaborative efforts with business. While there has been some reticence to establish linkages between businesses and higher education, some businesses have taken a proactive approach. Businesses in northeast Minnesota have begun to provide employment incentives to attract college students back to their home regions or hometowns. For example, some Iron Range companies that need engineers offer scholarships to students who acquire engineering degrees and then return to work in the area. This has resulted in a net reduction in the number of highly skilled employees recruited from outside the state. The fact that researchers heard limited discussion of these kinds of relationships between higher education and businesses suggest that these linkages are underdeveloped in Minnesota.

**Businesses and the K-12 Community**

The environments and cultures of the business community and K-12 education lead to very different views and approaches with regard to training and relationship building. For example, the competitive, dynamic nature of a business setting lies in stark contrast to the relatively non-competitive, stable school setting. These different environments help to explain why businesses and K-12 schools often have difficulty forging and maintaining linkages and partnerships.

With regard to education’s overall performance, businesses felt that schools generally do a good job of educating children, but that they are often short-sighted when it comes to creating learning experiences beyond school walls. Similarly, educators indicated that businesses do not realize the time schedules of teachers and are not sensitive to those needs. Both business representatives and educators agreed that linkages need to be strengthened. Both business and educators participants also acknowledged that each group could benefit from the strengthening of this relationship and the reconciliation of the misperceptions of roles and responsibilities.

In focus groups across the state, it was apparent that neither business representatives nor teachers had a clear idea of the environment in which the other was working. People in business repeatedly talked about the need for continuous learning and the need for collaborating with diverse groups. They described business training as short, flexible, intensive and hands-on. In industries, people change positions or even entire careers every 2-5 years. Business people contrasted the dynamic nature of the business world with the comparative stability of the education world. In the competitive business environment, this often results in a drive to upgrade skills and knowledge to remain professionally marketable. By contrast many teachers in Minnesota lack incentives for continuous professional development because they are generally able to remain in one position their entire working lives.

"It was hard to develop relationships and maintain links to schools because, while schools kept the same people at the table, the business people had turned over three and four times over."

*Business Leader in southern Minnesota*

Focus group teachers responded to this assertion by describing the tremendous demands on their time, the increasing number of special needs children,
dwindling family support, and the lack of respect for the profession. A number of educators expressed interest in linking with area businesses, but indicated that time restrictions prohibit them from making those contacts. For example, in many areas, community association meetings that involve business people are held over breakfast or lunch, preventing teacher participation. Grading papers, creating 5-6 daily lesson plans, and extra curricular advising or coaching often restrict evening participation in community events. Teachers repeatedly stated they lacked time in their current school day to connect and work with businesses.

Both teachers and business professionals expressed an interest in involvement with one another, but neither group feels that the resources and time are being efficiently and effectively utilized. School-to-work initiatives have started to foster better connections between these two environments. As one advisory council member stated, “The key players in education sphere stay fairly stable, but the business stakeholders that we have worked with over the past decade have changed three or four times. This presents a challenge to creating a common vision for school-to-work initiatives because the players keep changing.” In many of Minnesota’s communities, school-to-work partnerships are in various stages of development. For example, while the Owatonna TOP TEAM has been in existence since 1989, Redwood Falls is just beginning to establish its school-to-work initiatives. To fully develop these initiatives, some teachers and administrators suggested that teachers require more time to create and build these relationships, a luxury that the current K-12 educational system made a priority but has not become institutionalized.

Teachers, repeatedly stated they lacked time in their current school day to connect and work with businesses

Many focus group participants from the business community believed teachers should receive incentives for their efforts to connect with businesses and for the performance of their students. Teachers, administrators, and business leaders believed that school/business partnerships should be a “way of life,” not an “add-on” and that training on how to meet the common goals of education and business should be required. These participants further stated that educators often lacked both the skill and experience to make connections with businesses, and the schools do not have the structures in place to promote these connections. They suggested that higher education could provide this type of training during their teacher preparation programs. For example, student teachers could participate in job shadowing experiences related to their chosen discipline prior to completing their training to learn how to connect and organize with industry.

Participants from both teacher and administrator focus groups stated that some schools had successfully created linkages between schools to industry by hiring a paid liaison. Typically, this liaison both possesses a background in education and has ties to the business community. They are responsible for initial contacts between business professionals and teachers.

There is a general consensus from all education stakeholders that the linkages between schools and businesses are beneficial, but there is still no consensus
on whom, and how to make these linkages happen.

**Parents, Guardians and Schools**

Teachers and administrators who participated in this study agreed that there should be joint responsibility for children's education between the parents (or guardians) and the schools. No one disputes the fact that parents and guardians often have less time today to spend with their children and to connect to schools. The reality is that almost all parents (or guardians) have to work. However, their role is crucial to the success of children. At the most basic level, study participants from all stakeholder groups believe that it is the responsibility of parents to make sure their children are fed in the morning and come to school ready to learn. Teacher and administrator focus group participants expressed strong concerns regarding children who come to ill-prepared to learn. The reality is that many children come to school hungry, others witness violent acts at home and in their neighborhoods. Additionally, many children do not have a quiet place to study when they go home and find that there is no one who cares about their learning.

Students participating in this study indicated that they wanted their parents to be involved in school—it showed they cared. Students also pointed out that when parents are involved, students are subject to higher standards and that helps them “stay out of trouble.”

Teachers, administrators, and several executive directors of educational associations offered many suggestions for overcoming some of these barriers.

- More direct social and community agency involvement with the schools
- Locate more social and community agencies in the schools.
- Offer more extended day programs
- Fund more research that studies the relationships between parents and schools
- Create better linkages between students and senior citizens

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**Senior citizens are often the ones who have time to spend with young people. They have a great deal of experience and insight to offer to an adolescent, including a mutually beneficial mentoring relationship.**

_Education Association Director_

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**Internal K-12 linkages**

The final linkage that was raised in from focus groups and interviews was the internal K-12 linkage. By internal K-12, the researcher team is referring to the linkages between elementary, middle and high schools, as well as the linkages between grade levels. Both teachers and administrators pointed out an increasing need to understand the developmental stages of children. Teachers need to understand what has happened in previous grades as well as the expectations for the years to come. This highlights the importance of the linkages between elementary, secondary schools and every grade in between. The very nature of the graduation standards in Minnesota demands these internal K-12 linkages.

Teachers indicated that they did not receive sufficient developmental training in their teacher preparation programs. Focus group teachers and administrators also noted the importance of teachers sitting in on classes being taught at other
grade levels as well as, visiting schools (elementary, middle, high school) where they did not teach.

CONCLUDING REMARKS

This study has used an economic model as a lens for examining the education industry since education faces similar workforce issues as other industries. Using this model the research team asked two critical questions:

How can we ensure beginning teachers are prepared for the classroom? And,

Who is responsible for that preparation?

An additional element inseparable from these two questions is how the institutions that carry out and support the education of children are linked. These questions must be addressed by Minnesota’s education industry if the system is to improve.
SUMMARY OF FINDINGS

1. Even though the preparation that teachers received in college programs was satisfactory, it did not adequately prepare them for the reality encountered in the classroom and school system.

2. Teacher education programs provide limited opportunities for interaction with students in the K-12 classroom.

3. School administrators stressed the importance of preparation for Graduation Standards, but specifically highlighted the importance of performance assessments and the conceptual framework that supports the Standards.

4. School administrators expressed apprehension that the teacher colleges were still not "on board" with the changes taking place in Minnesota's K-12 education system.

5. Teachers and administrators suggested that student teaching be broadened to include the comprehensive responsibilities of teachers; for example, interaction with parents, school policies, and school psychologists.

6. Administrative and higher education focus groups stated that student teachers need to have greater exposure and demonstrated competence in the use of technology and in incorporating research on best practices into their instruction.

7. In the freshman year of college for those interested in teaching careers, teaching and classroom experiences should begin and continue throughout teacher preparation programs. Exploration of teaching as a career should begin in high school through school-to-work opportunities and other community experiences.

8. Researchers who have studied student teaching stress the importance of support from mentors and supervisory staff.

9. The teaching profession lies in stark contrast to industry training standards. New teachers commonly begin full time teaching as soon as they finish their preparation programs. They often teach the most difficult classes, are encouraged to take on extra-curricular responsibilities, and receive little mentoring guidance. New teachers are often exposed to a "sink or swim" attitude on the part of fellow teachers, principals, and school administrators.

10. Higher education participants indicated that school administrators often expect new teachers to be completely prepared for their first year of teaching.

11. School administrators believed that first year teachers were not fully prepared and elected to hire teachers who had been "seasoned with a year or two of experience."

12. All participants believed that teachers were underpaid given the level of responsibility and time that teachers currently work. Repeatedly, teacher focus group participants perceived that the relatively low wages make it difficult to attract qualified individuals into the profession.

13. Teachers who are trained in math, business, computer, or industrial technology do not receive strong
financial incentives to stay in education.

14. Time for preparation, planning, working with colleagues, meeting individually with students or parents, or working on the development of curriculum or assessment measures is rarely available and considered part of the teacher's main job.

15. Through its current licensing practices, seniority policies, and incentive structures, the Minnesota's K-12 education system limits the movement of teachers across disciplines and districts, inhibiting the exchange of people and ideas.

16. Interested mid-career individuals (teacher's aides, community experts, etc.) find it difficult to move through the education system without taking at a minimum one-year and a half of schooling.

17. In both urban and greater Minnesota, teachers of color are greatly needed. *Statewide, teachers of color constitute 2.5% of the teacher population and students of color make up 13.5% of the population.*

18. Students regardless of race, ethnicity, or social background, need to have the opportunity to benefit from the experiences and perspectives of other racial, ethnic, and socio-economic groups. These experiences help prepare students for America's pluralistic society.

19. Teachers and administrators in the study cited many instances of media highlighting the failures of schools while simultaneously neglecting many of the accomplishments of Minnesota schools.

20. Administrator and teacher participants indicated that teachers themselves fuel this negativity. Both groups stated that teachers themselves sometimes fuel negativity about education through everyday conversations.

21. Many teachers advise their own children not to enter the profession because of the work environment, long hours, lack of respect, and lower remuneration. Teachers could be the *best* recruiters for the best and brightest students.

22. Colleges, that raised admission standards for their colleges of education, have experienced significant increases in the number of applicants. Many of these colleges have even had to establish selection criterion for admission to these programs.

23. While educational institutions in Minnesota have taken initial steps to improve the relationships, linkages, and lines of communication within the education industry, much more needs to be done.

24. Regardless of where focus groups were held across the state, perceptions by businesses, teachers, administrators, parents, teacher educators, and student teachers about the activities of other stakeholders were usually sketchy, partially true, or outdated.

25. The majority of teacher colleges do not have a system in place to continuously solicit feedback on the content and design of teacher education curriculum from school administrators, current teachers, business professionals, or community representatives.
26. Districts located closer to colleges and universities tended to have more interaction with post-secondary institutions than those located at a greater distance.

27. Regardless of geographical proximity or frequency of communication, teacher educators agreed that the concepts they most often incorporate into their curriculum or departmental policies result from conversations that they have with their national peers in academia, not from teachers or administrators at the grassroots level.

28. A debate remains about who should take the leadership role in initiating changes. Many teacher educators stated that their departments should take the lead and initiate relationships with the schools, while other teacher educators believed that it was the responsibility of K-12 schools to initiate the relationship. A similar debate exists in the K-12 community as to who should make the overtures.

29. Limited collaborations exist between higher education and the business community.

30. Institutional reticence at the teacher college level at the time of the focus groups seemed to reflect the general state of confusion over Minnesota’s Graduation Standards implementation.

31. To improve linkages and ensure teachers and teacher educators understand each other’s respective environments, study participants suggested that teacher educators teach in the K-12 classroom for extended periods of time.

32. A number of collaborative efforts do exist between higher education and the business community. Most linkages however, take the form of business representatives serving on curriculum and development committees. Higher education participants reported that it is very difficult to work with businesses because the relationship is new and the goals of each group are not always clear.

33. With regard to education’s overall performance, businesses felt that schools generally do a good job of educating children, but that they are often short-sighted when it comes to creating learning experiences beyond school walls.

34. Educators indicated that business leaders do not realize the time schedules of teachers and are not sensitive to those needs. Both business representatives and educators agreed that linkages need to be strengthened.

35. Both teachers and business professionals expressed an interest in involvement with one another, but neither group feels that their resources and time are being efficiently and effectively utilized.

36. Teachers and administrators pointed out an increasing need to understand the developmental stages of children. Additionally, teachers need to understand what has happened in previous grades as well as the expectations for the years to come.
RECOMMENDATIONS

This report describes some of the challenges facing the educational workforce in Minnesota and nationwide. The fact that nearly two of every ten teachers and administrators in Minnesota will be retiring over the next five years serves as a powerful reminder to those concerned with Minnesota’s education system. **Now is the time to develop new approaches to teacher preparation and improve the linkages between schools, higher education, business, and community.**

The research team has developed the following recommendations for policy makers and the education industry as a whole. These recommendations follow the report format: teacher preparation and retention, and linkages. They are based on the research findings and input from the study’s advisory council.

*Teacher Preparation and Retention*

- **Teacher preparation, like student preparation, should focus on the performance outcomes of all teachers.** Teachers must gain both classroom experience and high proficiency in the Graduation Standards. Teachers should be able to demonstrate their knowledge and skills, and remain current in research-based best practices continuously during their career.

- **Customize teacher preparation** Industries have provided models of internships and apprenticeships, flexibility, and “just-in-time” training. Teacher preparation programs must be able to provide intensive or short term training to match the needs of the current or future educator. Credit for continuing education credits should be tied directly to state reform initiatives and local school improvement plans.

- **Expand the number of potential teachers in the classroom by broadening the definition of educator to include:**

  - *Current teaching professionals moving into another education specialty* - current primary or secondary school educators who wish to teach another subject area or teach in another setting.

  - *Traditional college age student teachers* - young adults from a diversity of racial, ethnic and social backgrounds who choose to teach in a variety of urban, rural and suburban settings.

  - *Mid-career individuals* - individuals with appropriate skills, experience, disposition and a demonstrated ability to communicate with children who wish to become full time teachers.

  - *Community experts* - business and community representatives who can be released from their present positions for a period of time each day to teach a class related to their professional field. For example, an engineer could teach a daily calculus class to high school seniors or a graphic artist could instruct a grade school class twice a week in art.

  - *National and cultural experts* – qualified teachers from other countries who choose to impart their own language, culture, and history.
• Develop and promote exchanges for professional development. Create other opportunities for individuals within education to experience unfamiliar fields, age groups, or institutions. Recognize exchanges as a valid form of continuing education that the state needs to fund. Incentives and opportunities that encourage exchanges are vital both within education and with business.

• Develop plans for attracting more people of color into the education field and establish stronger ties with churches and other community organizations that traditionally have strong ties to communities of color for the purpose of attracting new teachers. Colleges need to build relationships with organizations that are vital and connected to communities of color. Outreach recruiting programs can be effective for both the majority and minorities communities.

• Address the issue of time limitations and structural rigidity in education so that teachers have time to collaborate with others and move more easily between disciplines and districts.

• Provide policy and financial support for teacher residencies, internships, and mentorships. These activities provide comprehensive, practical experience and support for entering teachers and veteran teachers.

• Hold high standards for admission into and graduation from teacher training programs. Teaching the next generation is a high calling with expanded responsibilities. Therefore, the standards to enter the field should be set high and the expectations during training rigorous and thorough. Colleges that recently raised entrance requirements into teaching specialties find that students regard those programs as prestigious and many vie for the opportunity for challenging instruction.

Linkages

• Create a state level consumer/supplier education council that provides leadership and fosters continuity throughout the education industry (encompassing stakeholders from pre-kindergarten through post-secondary). Provide space and time for the exchange of ideas and information among all educational stakeholder groups. Discussion builds consensus around the broad educational mission, clarifies roles and responsibilities of teachers, administrators, teacher educators, and others, and hinders misperceptions.

• Create incentives for educational institutions to collaborate with other agencies. State funding should be tied to true, ongoing collaborations. The suppliers of teachers (higher education programs) and the customers of those institutions (schools, districts) must communicate their needs and provide feedback to one another. Educational stakeholders also need models of best practices when building and maintaining linkages.
- Encourage and expand a larger public dialogue on educational issues. Convene ongoing discussions that involve the media, policy makers and the public. The Minnesota Department of Children, Families, and Learning and local schools should continue in its efforts to make more information about schools accessible via the World Wide Web.
Education Industry
Advisory Council Members

Mary Bents
Asst. Dean, Student and Prof. Services
College of Education and Human Development
University of Minnesota

Darrol Bussler
College of Education
Mankato State University

Chuck Coskran
Department of Children, Families, and Learning

Gary Cunningham
Humphrey Institute of Public Affairs

Dale Jensen
Executive Director
Minnesota Association of School Administrators

John Kreft
Teacher
West Central Area Schools

Jim Louma
Superintendent
Grand Rapids School District

Ron McKinley
St. Paul Companies

Jerry Monson
Chair of the Southeastern and South Central Initiative Fund

Dennis Nigon
Principal
Rochester Lourdes High School

Robert Olson
Eagle Tool and Design

Eugene Piccolo
Assistant Commissioner
Department of Children, Families, and Learning

Yvonne Sorenson
Teacher
Montevideo High School

Beth Aune
Department of Children, Families, and Learning

Catherine Tschida
Director
Chisago Lakes Alternative Learning Center

Judy Wain
Executive Director,
Minnesota Board of Teaching
Location, Dates and Participants of the Education Industry Focus Groups

St. Paul Focus Group – September 16, 1997
23 Parental Representatives

Bemidji Focus Group – September 25, 1997
16 Administrator Representatives

Hibbing Focus Group – October 9, 1997
15 Administrator Representatives
8 Business Representatives

Alexandria Focus Group – October 23, 1997
9 Administrator Representatives
6 Teacher Representatives

Redwood Falls Focus Group – October 30, 1997
10 Business Representatives
10 Administrator Representatives

Duluth Focus Group – November 7, 1997
8 Higher Education Representatives
19 Teacher Representatives

Mankato Focus Group – November 14, 1997
7 Higher Education Representatives
4 Student Teacher Representatives
9 Administrator Representatives
11 Teacher Representatives

Rochester Focus Group – November 20, 1997
7 Teacher Representatives
10 Business Representatives

Minneapolis Focus Group – December 17, 1997
11 Administrator Representatives from Minneapolis and St. Paul Schools
4 Teacher Representatives
14 Higher Education Representatives from Twin City Colleges/Universities
16 Members of the Department of Children, Families, and Learning Youth Advisory Council
Michael Porter, Harvard Business School Professor, developed a new economic model in the 1980s. This model, known as the "Diamond of Advantage," has been used to analyze groups of similar firms (industry clusters) in geographic regions for economic development purposes.

1) Factor conditions, such as a specialized labor pool, specialized infrastructure, and sometimes selective disadvantage(s) that drive innovation (e.g., current labor pool, certain teacher shortages that allow people from other fields to teach in Minnesota as an emergency credential);
2) Related and supporting industries, or local customers who push companies to innovate, especially if their needs or desires anticipate global or local demand (e.g., superintendents, school boards and parents who demand better quality education);
3) Related and supporting industries, notably competitive local supplier industries (education departments) who create business infrastructure and spin-off industries (e.g., teacher preparation programs, continuing credit programs);
4) Industry strategy, structure, and rivalry, intense rivalry among local industries that is more motivating than foreign competition and a local culture that influences individual industries attitudes toward innovation and competition (e.g., private and parochial schools, charter schools, alternative learning centers).

In addition to these areas, the Porter approach includes the roles of the government and chance:

Historical accident and/or government action may play significant roles in the early development of local clusters.

Appendix I:
Michael Porter Diamond of Advantage
Michael Porter Diamond of Advantage

Michael Porter, Harvard Business School Professor, developed a new economic model in the 1980s. This model, known as the “Diamond of Advantage,” has been used to analyze groups of similar firms (industry clusters) in a geographic region for economic development purposes.

1) Factor conditions, such as a specialized labor pool, specialized infrastructure, and sometimes selective disadvantages that drive innovation (e.g. the current labor pool, certain teacher shortages that allow people from other fields to teach in Minnesota on an emergency credential);
2) Home demand, or local customers who push companies to innovate, especially if their needs or tastes anticipate global or local demand (e.g. superintendents, school boards and parents who demand better quality education);
3) Related and supporting industries, nationally competitive local supplier industries (education departments) who create business infrastructure and spur innovation and spin off industries (e.g. teacher preparation programs, continuing credit programs);
4) Industry strategy, structure and rivalry, intense rivalry among local industries that is more motivating than foreign competition and a local “culture” that influences individual industries’ attitudes toward innovation and competition (e.g. private and parochial schools, charter schools, alternative learning centers).

In addition to these areas, the Porter approach includes the roles of the government and chance. Historical accident and/or government actions tend to play significant roles in the early development or location of local industrial clusters.

Figure 1. Michael Porter Diamond of Advantage
Qualitative Research Methodology for Focus Group Approach

There are many different definitions of what focus groups consist of. The following definitions contain the core elements of a focus group and how they were utilized in this study.

- The group is an informal assembly of target persons whose points of view are requested to address a given topic.
- The group is small, usually 5-12 members, and are relatively homogeneous.
- A moderator initiates with proposed questions that probe for the group and reduces perceived biases.
- The focus is for an audience to share perceptions, feelings, attitudes, and ideas of the target group about a selected topic.
- Focus groups do not generate quantifiable information that can be projected to a larger population.

In education, as well as in a growing number of other fields, the traditional positivist qualitative research paradigm has been gaining greater acceptance in postmodern studies. As a part of conducting qualitative research, focus groups provide a planned and guided environment while still allowing for a flexible environment that encourages non-researching participants on certain topics. These groups add synergy and stimulation by continuing discussion about a topic. They can elicit higher levels of thinking to data gathering as responses often add meaning and resolve those issues. Focus groups further provide a testing of theory because they often create a comfortable surrounding which encourages candid responses. Finally, focus groups create an atmosphere of spontaneity because they are not intended to answer every question to their respondents.

Appendix II:
Qualitative Research Methodology

Focus group interviews are also compatible with the key assumptions of the qualitative paradigm (Vaughn, 1996):

- The nature of reality—multiple views of reality can exist. This is a foundational aspect of the focus group process. In fact, in educational research, multiple opinions and perspectives are desired.
- The interaction between the moderator and the respondents as well as between the respondents themselves are recognized for having the potential to add depth and dimension to the knowledge gained.
- The nature of truth statements is such that truth is influenced by perspective. The focus group interview attempts to gather a deeper understanding of perceptions, beliefs, attitudes, and experiences from multiple points of view and to document the context from which those perceptions and so forth were derived.

Qualitative Research Utilizing the Focus Group Approach

There exist many different definitions of what focus groups consist of. The following definitions contain the core elements of a focus group\(^\text{18}\) and how they were utilized in this study:

- **The group is an informal assembly of target persons whose points of view are requested to address a selected topic.**
- **The group is small, usually 6-12 members, and are relatively homogenous.**
- **A trained moderator(s) with prepared questions and probes sets the stage and induces participants’ responses.**
- **The goals of a focus group is to elicit perceptions, feelings, attitudes, and ideas of the participants about a selected topic.**
- **Focus groups do not generate quantitative information that can be projected to a larger population.**

In education, as well as in a growing number of other fields, the traditionally maligned qualitative research paradigm has been earning greater credence in professional circles. As a part of conducting qualitative research, focus groups provide a planned and structured environment while still allowing for a flexible environment that encourages interaction among participants on certain topics. Focus groups add synergism and stimulation by creating excitement about a topic. They can create a chain reaction to data gathering as responses elicit additional comments and responses from others. Focus groups further provide a feeling of security because they often create a comfortable surrounding which encourages candid responses. Finally, focus groups create an atmosphere of spontaneity because participants are not required to answer every question so their responses are usually genuine (Hess, 1968).

Focus group interviews are also compatible with the key assumptions of the qualitative paradigm (Vaughn, 1996).

- **In the “nature of reality” multiple views of reality can exist. This is a foundational aspect of the focus group process, in fact, in educational research, multiple opinions and perspectives are desired.**
- **The interaction between the moderator and the respondents as well as between the respondents themselves are recognized for having the potential to add depth and dimension to the knowledge gained.**
- **The nature of truth statements is such that truth is influenced by perspective. The focus group interviews attempt to gather a deeper understanding of perceptions, beliefs, attitudes, and experiences from multiple points of view and to document the context from which those perceptions and so forth were derived.**

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When focus groups are conducted properly, researchers can elicit substantial information about participants' thoughts and feelings on the particular topic of interest. Focus groups further assume that people are valuable sources of information. Researchers gain insights into the topic by listening to participants' words and expressions to communicate their experiences. Some researchers have even provided evidence that focus groups can yield more accurate information about what participants really think than other research methods.

There are three basic approaches to research where focus group techniques are often applied: exploratory, clinical, and phenomenological. This study uses the exploratory approach whose goal is to generate ideas and to validate them against the everyday experiences of the groups targeted by the Education Industry study. The exploratory approach is particularly useful when little is known about a particular topic. Information gathered can be utilized to pilot knowledge, assist in better understanding certain constructs, and to generate hypotheses. It can also be used to test initial ideas for hypotheses, research issues, and research designs (Vaughn, 1996).