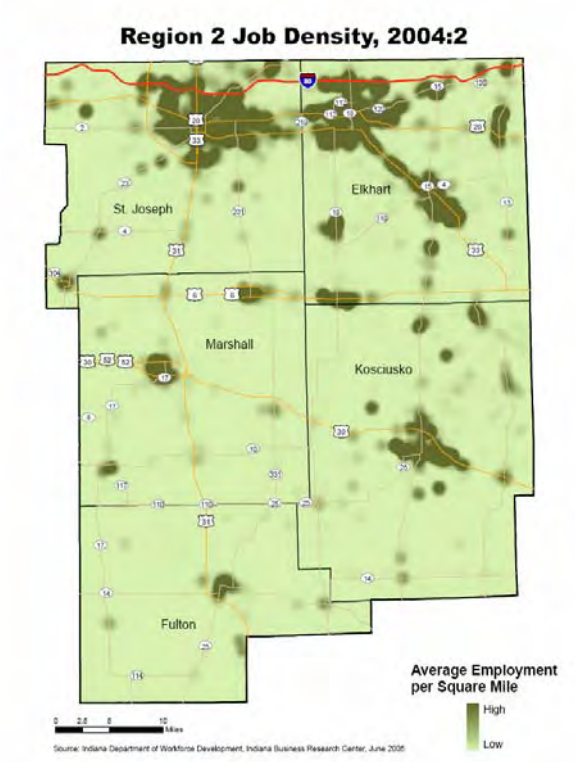
Strategic Skills Initiative
Phase Two Report

Root Causes - Appendix



Northern Indiana Workforce Investment Board, Inc.
VISIONARY LEADERSHIP FOR TOMORROW'S WORKFORCE

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Focus Groups: Methodology and Results

Focus Group Methodology

Focus groups were held with a variety of people from both the demand and supply sides. Representatives of companies in each NAICS sector were invited to sessions concentrating on their particular sector. The meetings were held throughout EGR2, according to the following schedule:

Northern Indiana Workforce Investment Board
Strategic Skills Initiative
Root Causes Focus Groups, by NIACS

NIACS	Date	County
326	11.10.05	Marshall
332,333	11.11.05	St. Joseph
3391	11.15.05	Kosciusko
622	11.17.05	Elkhart
All	11.22.05	Fulton
Suppliers*	11.30.05	St. Joseph
621	12.01.05	Elkhart

* Suppliers designation includes educators, WorkOne staff, personnel agency staff, and DWD staff.

Suppliers' representatives, especially WorkOne staff members and trainers/educators, were encouraged to attend, so that they could hear, first hand, what the employers had to say.

Once the participants were gathered and introductions made, the session began with a brainstorming exercise. The facilitator clarified the group's purpose: "Why do you experience shortages in the occupation(s) identified in SSI Phase 1?"

Three Problem-Solving Tools Used to Process Information:

1. Brainstorming

The goal of brainstorming is to generate as many ideas as possible in a fairly brief amount of time. The clear emphasis is on quantity, rather than quality, and additional emphasis is placed on the fact that there are no right or wrong responses. There are three formal rules to brainstorming, designed to enhance the success of the activity:

1. No criticism – no ideas are too impractical or too unusual. No participant is allowed to disparage another's idea.
2. Equal opportunity – everybody is encouraged to contribute ideas to the session, and the facilitator may even prompt people to join in if they seem reluctant to voice their opinions.
3. Piggybacking or hitchhiking are encouraged. This means that participants are challenged to use someone else's idea to generate their own.

Each specific idea is written on either a sticky note, i.e. a 3X5 Post-It paper, or a flipchart. The former is by far the better method, since the sticky notes can be easily moved. As an idea is written down by its author, the note is taken and stuck on a convenient wall or dry-erase board. The process is continued until no more ideas seem to be forthcoming.

2. Affinity Diagrams

Once the notes have been affixed to the wall, the facilitator directs the participants to go up to the wall and arrange the notes into column, each of which is organized according to what they perceive to be a common theme. This is to be done in silence, since the themes are not identified at this point, and different people may arrange the notes differently. If someone sees that a person has placed a note in a column, but believes it should be elsewhere, they are welcome to move the note....as is the first person welcome to move it back. The goal of this activity is to reach a consensus as to the arrangement of notes. A column of "other" ideas is quite acceptable, and should there be ongoing concern about the placement of particular notes, the facilitator will encourage the group as a whole to make the decision.

Once consensus has been achieved, the facilitator asks the group to assign labels to each of the columns, identifying the theme uniting the different notes. This label must be a phrase, rather than a word, for the purpose of clarity. Generally, discussion will fairly quickly identify the theme, and a label citing that theme is placed at the head of the column. This is repeated for all the columns, and usually there will be between 3 and 6 columns of notes. The graphic

representation of these columns and their headers is an affinity diagram (see diagrams in Appendix).

3. Relational Diagrams

A relational diagram is designed to establish cause-and-effect relationships in a clear and positive way. The process begins by determining causal headers for each affinity column. The header phrases that identify the affinity themes of the columns are written on a board or flipchart.

Now, the facilitator restates the question that is the focus of the session – "Why do you have trouble finding qualified workers in the specific occupations we have identified?" Thinking of that question, the participants construct a diagram that indicates causal relationships. To do this, the facilitator leads the discussion in rather narrow channels. First, one label is selected, and the facilitator directs the conversation about the relationship between that label and each of the other labels. The operating question is, "Does this category influence the other one, or is it influenced by the other?" If the influence is *away* from the first and *toward* the second, an arrow is drawn showing the direction of the influence. And if the influence is in the opposite direction, an arrow is drawn that way. If there is no perceived influence of one category on the other, no arrow is drawn, and if the relationship is viewed as mutual, or circular, no arrow is drawn. Once the relations between the first label and all the others have been established by consensus, the facilitator turns to the second label and compares it with all the others, except for the first, which was already decided. Eventually, a diagram showing the relationships between all variables and all other variables will be constructed.

Following this analysis, the facilitator leads the group by simply counting the arrows, and establishing a ratio of arrows pointing *in* to those pointing *away* from each label. Thus, a ratio of #in:#out will be written next to each label on the board or chart. When all the ratios have been recorded, they are evaluated. That label having the greatest number of arrows pointing *to* it is thus identified as the *Root Effect*, since it is the most influenced by other factors. Similarly, the label having the greatest number of arrows directed *away* from it has the greatest influence on all the other variables, and hence is the *Root Cause*. If two labels have the greatest number of arrows pointing away from them, and the ratios are the same, they *both* are Root Causes. If one has fewer arrows *in*, however, it is the Root Cause, because it is less influenced by other factors.

Often, participants are surprised by the results of this exploration, and it may be worthwhile to conduct further discussion, so as to understand the meaning of the results in the light of their expectations prior to the exercise. All of our focus

groups experienced this, and while such discussions may never change the identity of the Root Cause, they are frequently lively. Moreover, it is important to analyze the Root Effect as well, since that assignment suggests issues that need to be addressed.

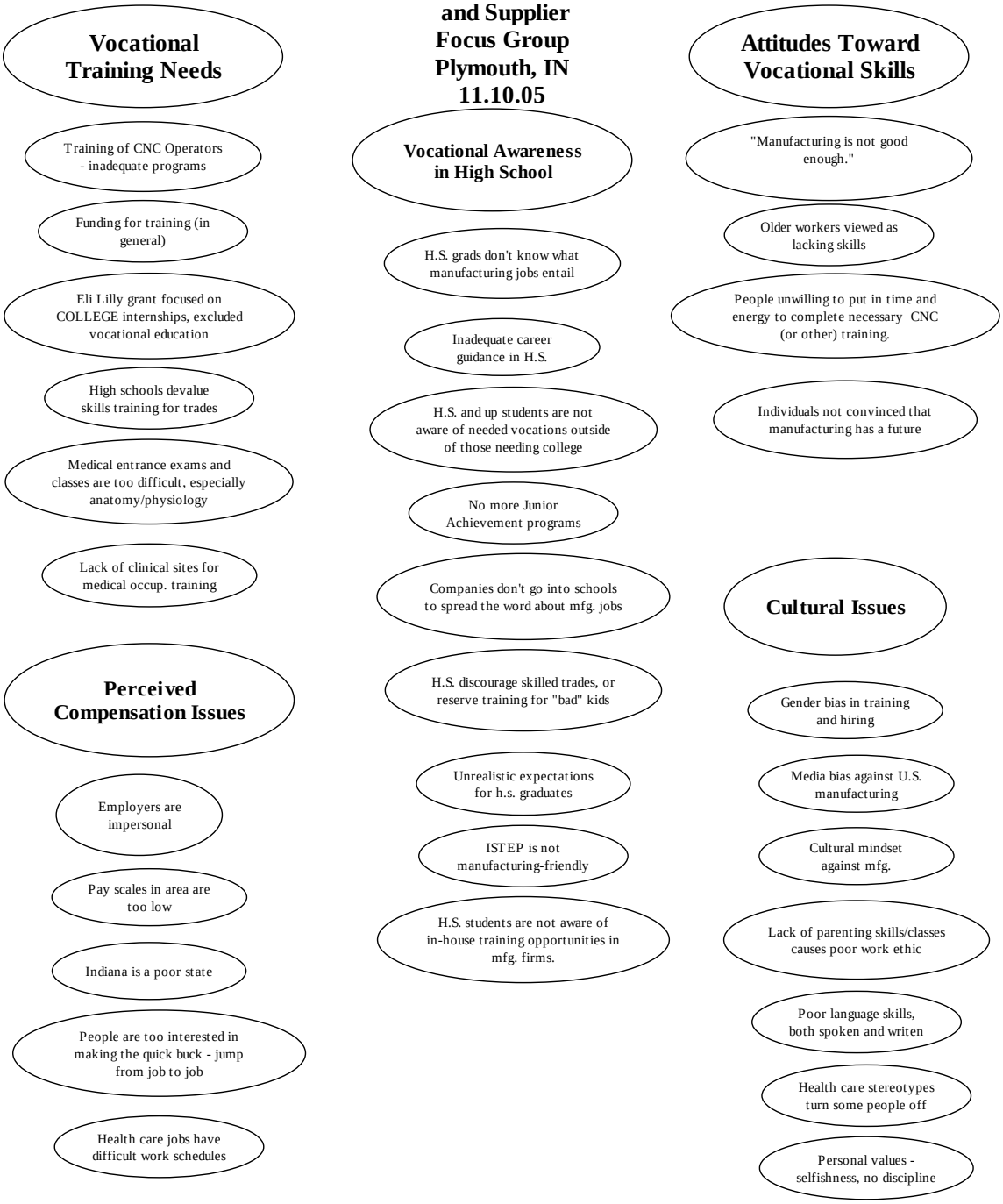
The following constitutes the summation of the focus group analyses; details and raw qualitative data will follow the affinity and relational summaries:[1]

1

[1] These and other techniques for problem solving can be found in Graham, Jacqueline D., and Michael J. Cleary, *Practical Tools for Continuous Improvement: Vol. 2, Problem-Solving and Planning Tools.* PQ Systems, Inc., 2000.

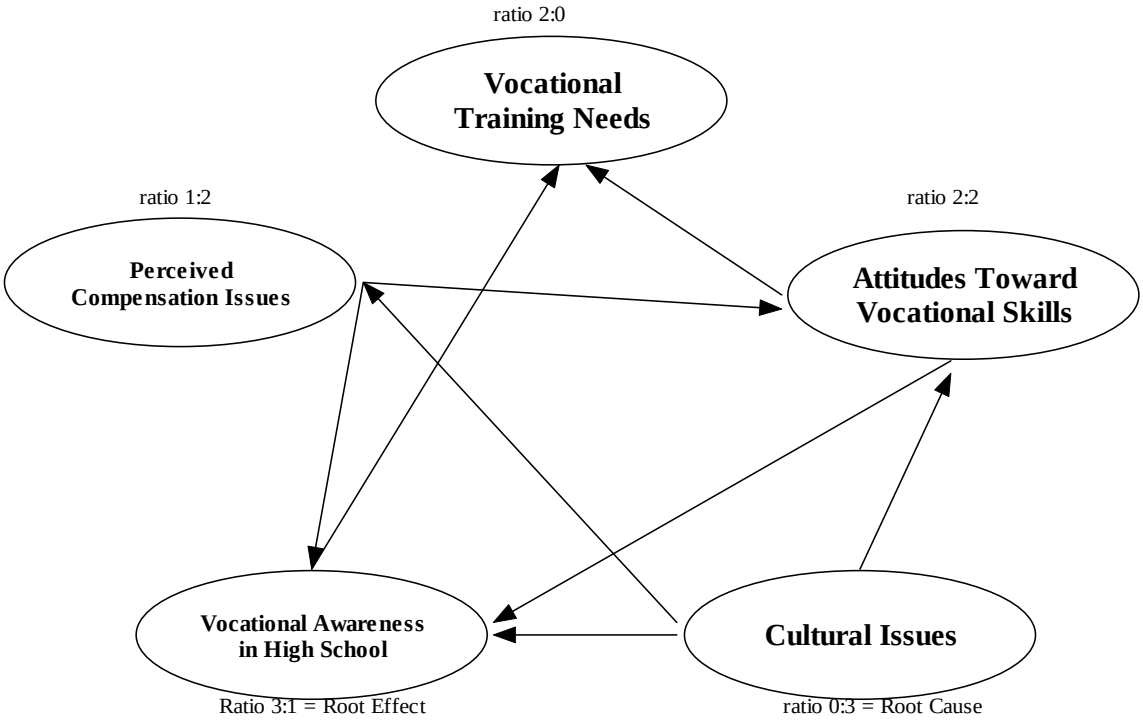
AFFINITY DIAGRAM

NIACS 326, Plastics and Rubber Mfg. and Supplier
Focus Group
Plymouth, IN
11.10.05



Relational Diagram

NIACS 326, Plastics and Rubber Mfg



ratio #lines in: #lines out
Greatest number of lines in = Root Effect
Greatest number of lines out = Root Cause

Plastics & Rubber Products Focus Group Meeting Notes
November 10, 2005
Plymouth Chamber of Commerce

Attendees:
Marilyn Miller – Plymouth Foundry
Kelly Gates – Nyloncraft
Glenn Hopkins – Ferro Corp
Suzie Johnson - Polygon
Melissa Denton - GIM
Gregg Toth - WorkOne
Joyce Graybill - IUSB

Review the occupations that have been identified.

The group brainstormed the reason for the shortages. Chuck suggested some possible areas:

- getting to work on time
- HR kinds of relationship employees have with employers
- Education System – deficient in some subject manner
    - Advance math, supervisory courses, type of welding needed for
      For 21st century industry
- Economy
    - Global or national trends – decline in programs producing welders or CDL licenses truck driver
    - Personal – people don't have the financial resources for adult learners to return to school
- Pipeline
    - Educational system and the sources is somehow bottleneck
        - e.g, certification requiring courses that are more liberal arts, no certification test planned for the next 6 months, supply issue
        - getting people into the job at the right time
- Leakage
    - people leaving the area – unexpected leakage of an occupation
    - personal life – stresses in home life that limit the people's ability to pursue
      education opportunities
- Cultural pressures – English as a second language – family culture values –
- personal history or experience -

Question presented to the group:
What is the occupation most difficult for you to find good people?

- Furnace operator (melt and test medal)
    Knowledge of chemistry and computers required.

Why: It requires a knowledge that most people do not get in a high school education
They would have to pursue in

- CNC
    - To do finishing

Mixers

It is trainable. Skill Set – we look for a work history at least 1 year in manufacturing
Work Ethics
Basic math – decimals
Legible printing
English/Spanish (Communication between employee and employers
Good Supervisors on the floor (no personnel skills in 1-2 day courses)

Organize the product and get it out the door.

WorkOne – Receive request from employers

Welders
CNC Operator – need minimal knowledge of set up
In Health Care
    Certified Nursing Assistant – (CAN)

CNC & Lays

The company mix lays – it is not a difficult task but finding someone to do it without making a mess and take pride in their work. – Skill obtainable with OTJ (on the job training)

Where company is located – before St. Joe, Marshall and Stark. Draw people from all angles but not from South Bend.

From computer and education what is the greatest demand for occupations you find from companies in the field.

IUSB

- Translation (Spanish)– from fast food to manufacturing – Supervisors with
  linguistic skills – increasing need in Marshall County

Con't Education – Anything health care related – pharmacy tech program
(there is a waiting list) and medical coding

Computer skills are a popular program – Supervision Program

Ivy Tech

- Industrial Demand – programs designed for basic level manufacturing to intermediate – our limitation is only having someplace to conduct the program.

- Calls from outside of the counties – Wabash – looking for CNC, Lay

- Translation – is in high demand
  Supervisors to meet the need.
  Work Ethics – starting a youth program called "Work Smart)" – Hope it will address the concerns – being offered state wide

- At job fairs – employers say prospective employees don't know how to dress and lack the soft skills

What is the most basic cause for not being able to find enough qualified/skilled
In the occupations that we need?

- not enough training of CNC Operators in schools
- secondary education in Trade Schools
- High School and above students do not know what opportunities are out there
  other than college
  - companies do not go into schools to let students know what's jobs are available in the manufacturing area
  - No availability of Junior Achievement
- More demand than supply and what supply is there - the older workers lack the
  skills
- Ivy Tech has excellent training program for CNC operators but individuals are unwilling to devote enough time to training – but want the money
  (Need 1 ½ yr to 2 months to become a programmer.)

Is there a strategy to allow them to become skilled in a lesser amount of time.
Ivy Tech has a manufacturing training program is intended to get the person started, give them some basic set up and operation skills along with some basic math. The counselor's job is to convince them to go into college and get a certification or degree in CNC programming.

The region can probably train about 50 individuals per semester (appx 128 hours).

- Individuals are not convinced of the future of manufacturing industries – the future meaning, they are expecting much more pay than what the industries can support.

- High school discourage skilled trades or reserve the skills training for bad kids. Kids that are not smart enough to get into a regular college. They
throw them into the manufacturing processing area.

- insufficient previous experience

- Inadequate career guidance for high school students – not aware of possibilities –

- General devaluation of manufacturing jobs (cultural)

- In the past – people retired from the manufacturing jobs – general economic trends. – now young people see where parents have lost their jobs because they went down south where's its cheaper or doors closed. No loyalty
Employers are in personal

- People fall through the cracks for training opportunities. If you are not a dislocated worker and you did not make minimum wage in your last job.
And you're not an ex felon or diversity client – other people who are out of a job and want training but can't finance it.

- Communication – cultural barriers – misconception of what the Hispanic
population is like. Difficult to address the language and cultural issues at the same time.

- High School grads don't choose manufacturing jobs because they don't know
  they can come in and get a skilled labor on the job training and be able to progress in their careers with just coming in and doing some basic line training. Stay on for 6 months and progress on the career ladder. Be more exposed to what manufacturing is all about, so they can be more comfortable choosing this as a career.

- The educational system is focused on ISTEP - Focus is you go to college and
  You will get a good job. Lack of focus on vocational jobs in South Bend Community School Corporation. People are unaware of in house opportunities.

- Language skills - both written and oral
- Personal values – showing up (attendance)
- You owe me attitude – as soon as they come in the door
- Workers move around for a quick buck – employees not loyal to employers
  And sometimes employers are not loyal to employees
- Soft skills – basic work ethics, show up to work on time – know how to follow instructions – having an interest in your job – wanting to keep it – not just going there for a paycheck. People don't how to say things and what to say – even in an interview

Cause of people not having soft skills

- parenting - don't have a strong work ethic in their families
- Eli Lily has grant focused on college internship – IUSB pay interns from his grant. Lack of support

Nursing (coders)

Nursing stereotyped as a female dominated field. Should be more encouragement for more males to choose nursing.

Lack of clinical sites – certain criteria is for clinical – very difficult to get everyone trained.

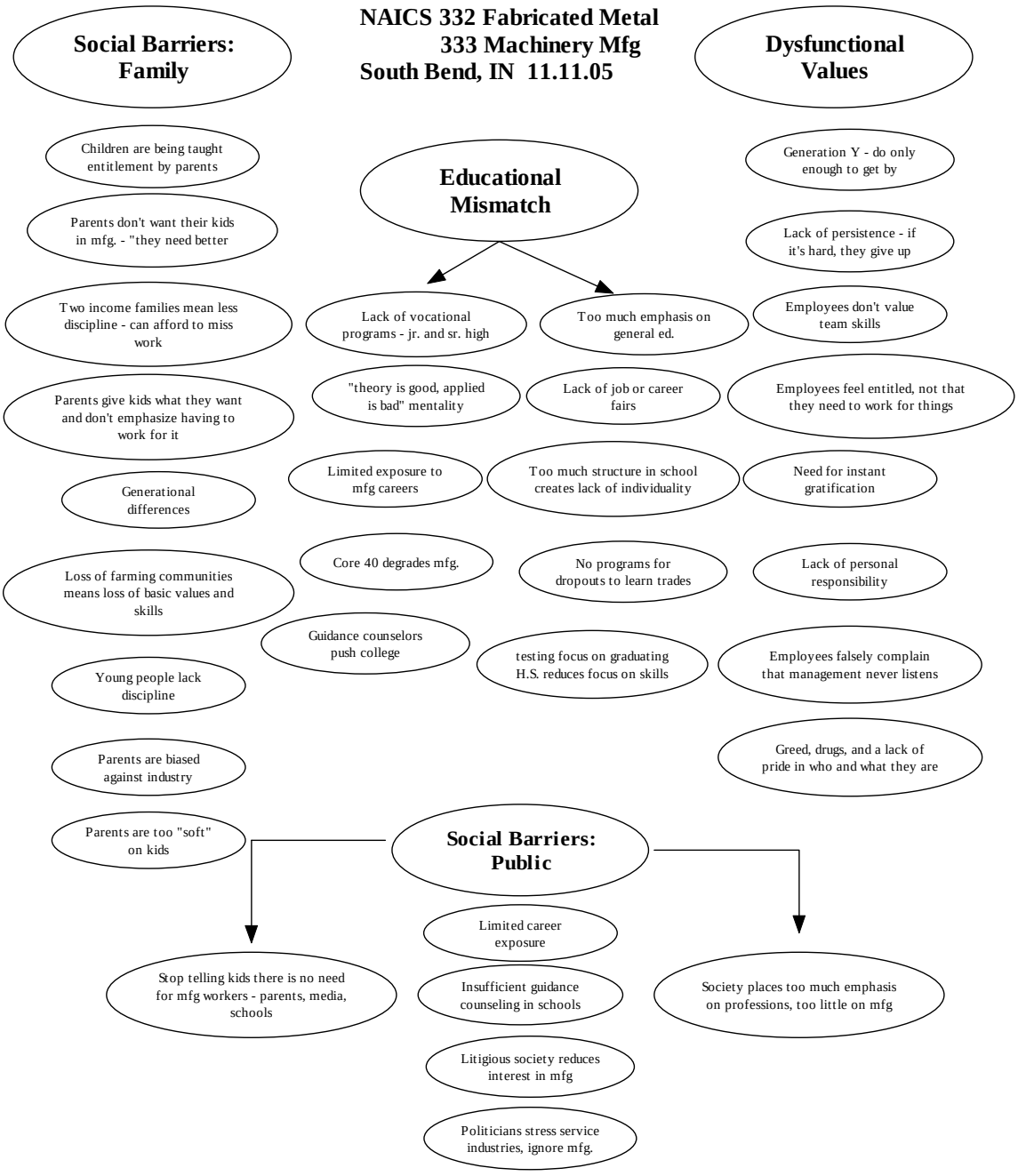
The schools are blaming the hospitals and the hospitals are blaming the schools.

Lots of people who would like to go into health care but can't make it through.

Very demanding science courses, Anatomy & Psychology (A&P) Courses extremely difficult. Reason people don't do well; previous education not sufficient, fear of the academic rigor, not willing to dedicate time and effort

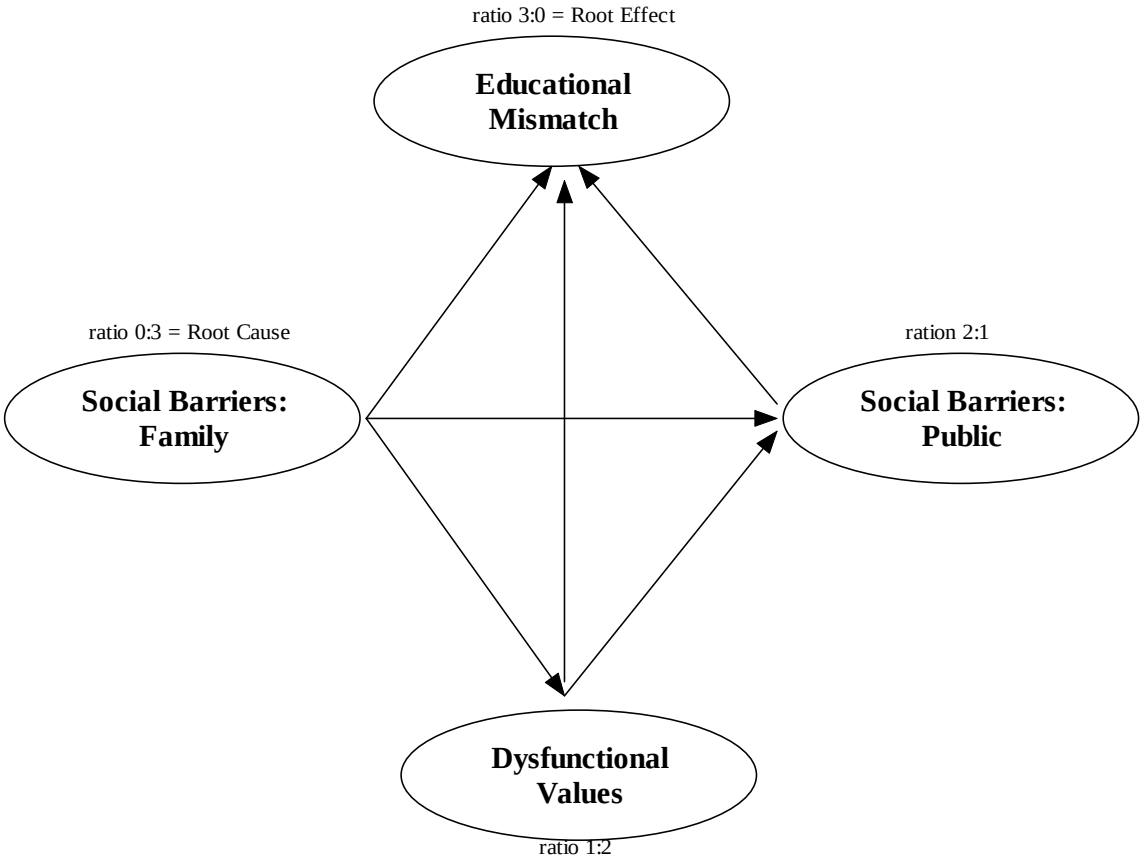
Causes – lack of early career counseling

AFFINITY DIAGRAM



Relational Diagram

NAICS 332 and 333



ratio #lines in: #lines out
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Fabricated Metal Products & Machinery Manufacturing
Focus Group Summary Points
November 11, 2005
WorkOne Center – St. Joseph County

Attendees:

Tony Veger – Lock Joint Tube
Jack Isles – Bull Moose Tube
Sue Kinnucas – Hoosier Tank
Pam Rubenstein – Allied Specialty Precision
Krysten Shoulders -
Karen Dady – Master Metal Engineering
Mark Melnick – Magnetech Industrial Services
Jamie Stockhouse – Mederal – Mogul
Jinny Longbrake – Memorial Health System
Bonnie Sullivan – Ivy Tech
Suzanne Wheeler – Purdue University
Howard Blackwood - WorkOne
Sharon Prusinski - WorkOne

The group discussed the most difficult occupations to fill. The positions have certain skill sets:

- Machinist
- Electric Motor Repair
- Seasoned General Laborers
- Production Workers
- Electrical Maintenance
- Entry Level People with basic math, communication and interpersonal skills
- Skilled CNC Machinist
- Machinist – non CNC Operator
    - To run a manual lathe
    - Create from raw material
- General Laborer
- Respiratory Therapist

A summary of some suggested main points for skills shortgages:

- HR Policies too demanding, impersonal, a perception of too structure environment
- Individuals did not receive the proper education/training needed for the job
- The general trends of the economy inhibiting some of the people from getting the training they need.
- Economic issue with area schools having to shut down some programs

- Pipeline /Awareness – the fact or the notion that kids as early as 6/7 grade know what the options may be in terms of vocations may be available in advanced manufacturing.

- High School Counselors aware of job opportunities – an evaluation or favorable vision to have kids prepare for a advanced manufacturing or do high school counselors or teachers tend to devalue these jobs.
- Personal Issues – home life – family demands prohibit people from getting the kinds of skills acquisition they need.
- Cultural Issues
- Individual Values do not promote the kinds of training and work ethical issues
- Regulations and Policies on the federal level – certification is too long, too rigorous
- Policies in terms of state boards for corporation are inhibiting the influx of desirable skills/people.

A summary of the group's discussion in why there are not enough people being made aware of opportunities in advanced manufacturing:

- Education Funding Cuts – no hands experience - no industrial arts – shop classes are no longer offered in high schools. Some high schools now are getting into Robotics programs. The young people are very excited – but program is not available in most schools.
- Parenting Skills needed– not every kid is cut out for college – parents should be oriented to technical programs.
- 40% turnover for production workers in some companies. Young people do not seem to care about consequences for not coming to work.
- No college training for certain skilled positions (e.g., motor repair). Employers train in house but still have difficulty finding the correct person for the position.
- Our society is putting more emphasis on professional positions instead of manufacturing Technical position. Core 40 and ISTEP are college prep programs being implemented in the high schools and steer students away from manufacturing and technical positions.
- Guidance counselors are unaware of opportunities other than college and do not have enough time to do anything other than scheduling.
- Some young workers lack of discipline
- Social cultural changes that have led people in general away from a certain traditional set of skills. Currently, everything is mechanical reasoning. In the past kids earned how to fix things. They did not have a formal training program, your father taught you how to fix it. Growing up on a farm – you learn basic mechanical and life skills.

- One of the fundamental problems is the educational theory is not right. ISTEP appeals to two types of intelligence; how good is your memory, math and language skills. SBCSC goal is to increase the ISTEP scores.
- Politicians geared towards new opportunities in technology and not the manufacturing industry.
- Media Bias against Manufacturing industry
- Parents dissuade/prevent young people from involvement in manufacturing industry.
- Two family incomes, takes the parent away from the home. While both parents are working, who is watching the babies. Materialism/greed have young people wanting more and more….
- Y Generation have certain values and have the feeling of entitled. Most will not work overtime. The older generation is there when needed to work the overtime. Disintegrate of values.
- The school policies allow students with an excessive amount of excused time off.
  The young people take this practice to the workforce. Lack of individual responsibility/accountability
- Life skills are not being taught at home
- There is a false premise, if you go to college – you will make more money

The group categorized the sticky notes in the following areas:

- Dysfunctional Value
- Educational Mismatch
- Social Barriers (Family & Public Cultural/Value Mismanagement)
- Soften Values
- Changing Values
- Dimensioning Values
- Change of Society
- Undesirable Social Changes
- Social barriers
- Negative View of Manufacturing Industry

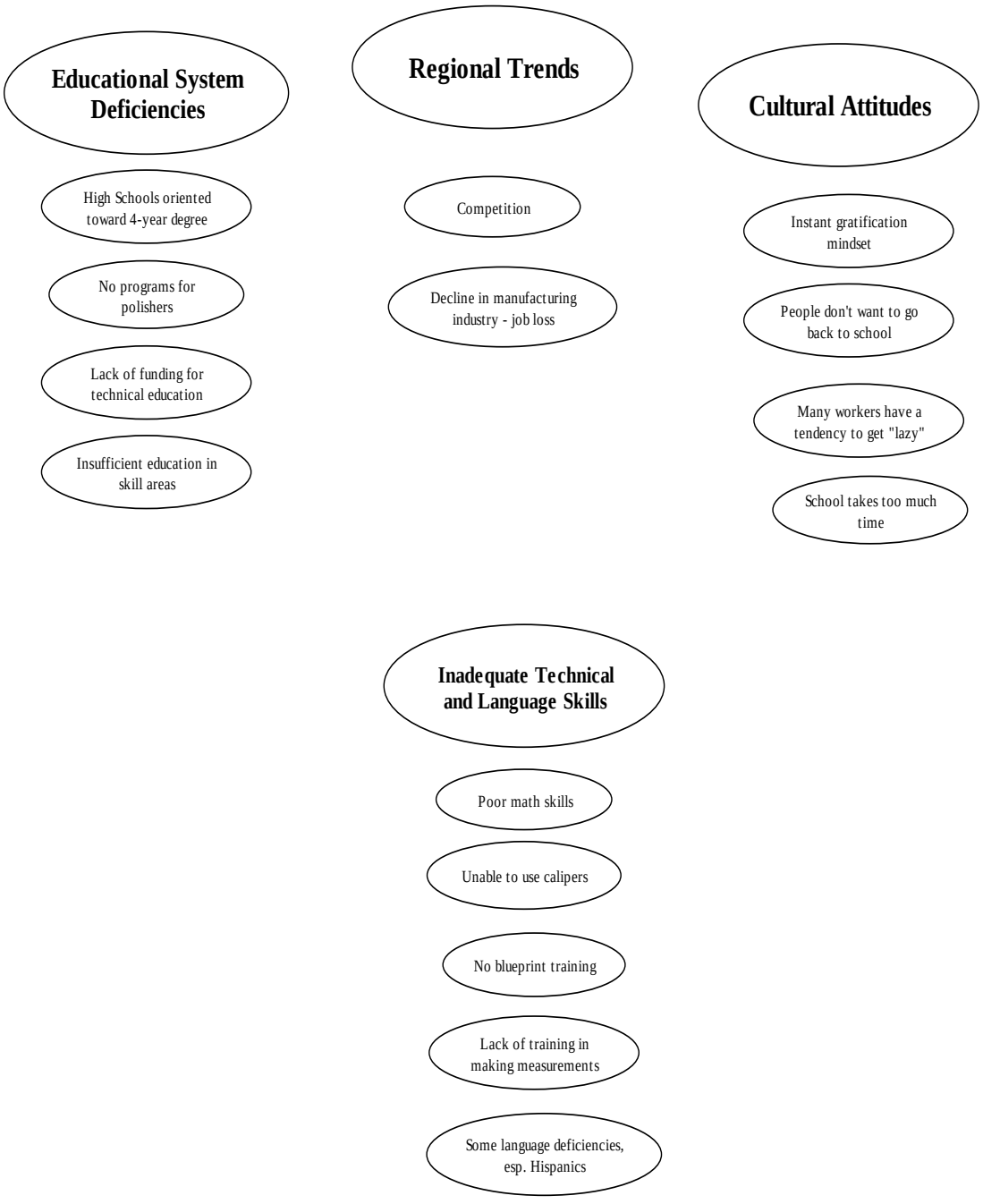
Root Effect: Educational Mismatch
Root Cause: Social Barriers (Family & Public Cultural/Value Mismanagement)

Solutions for critical job skills shortage:

- Develop mentoring programs for young people to see what manufacturing jobs are all about. SE Michigan currently have a very successful program.

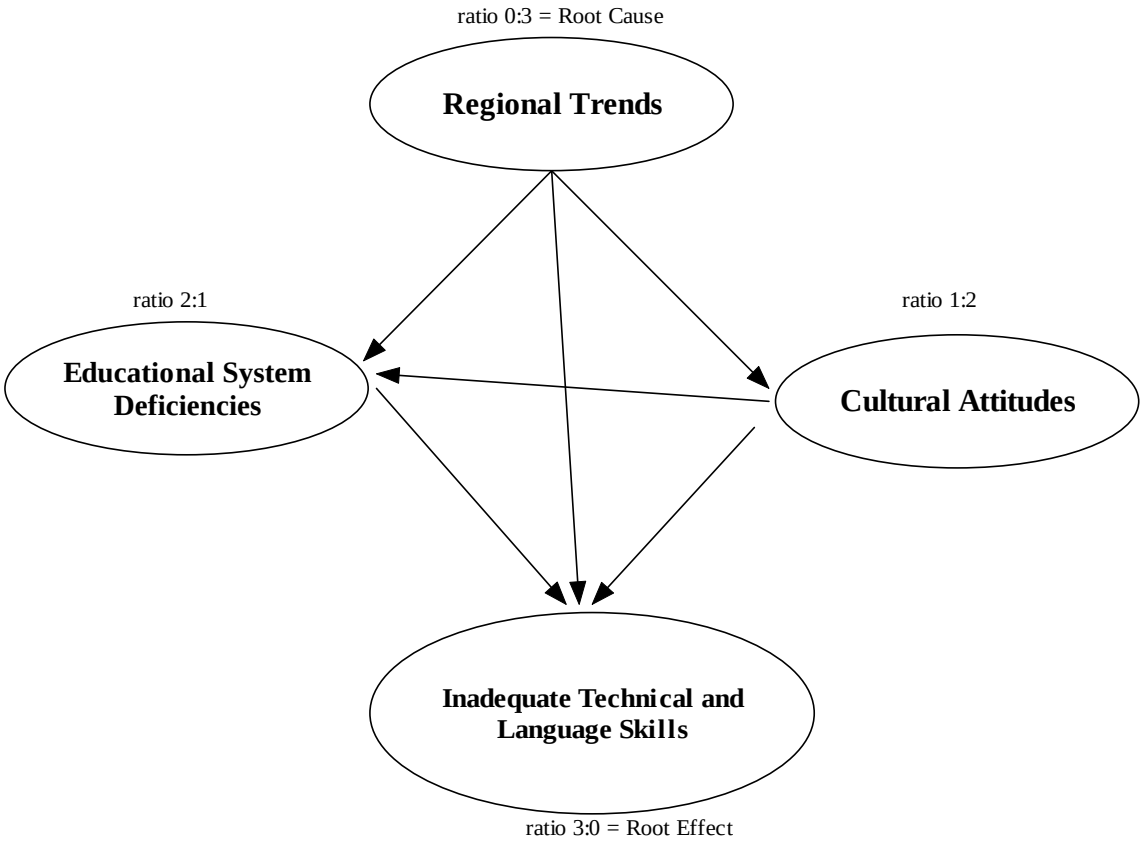
AFFINITY DIAGRAM

NIACS 3391, Medical Equipment
Focus Group
Warsaw, IN 11.15.05



RELATIONAL DIAGRAM

NAICS 3391, Medical Equipment



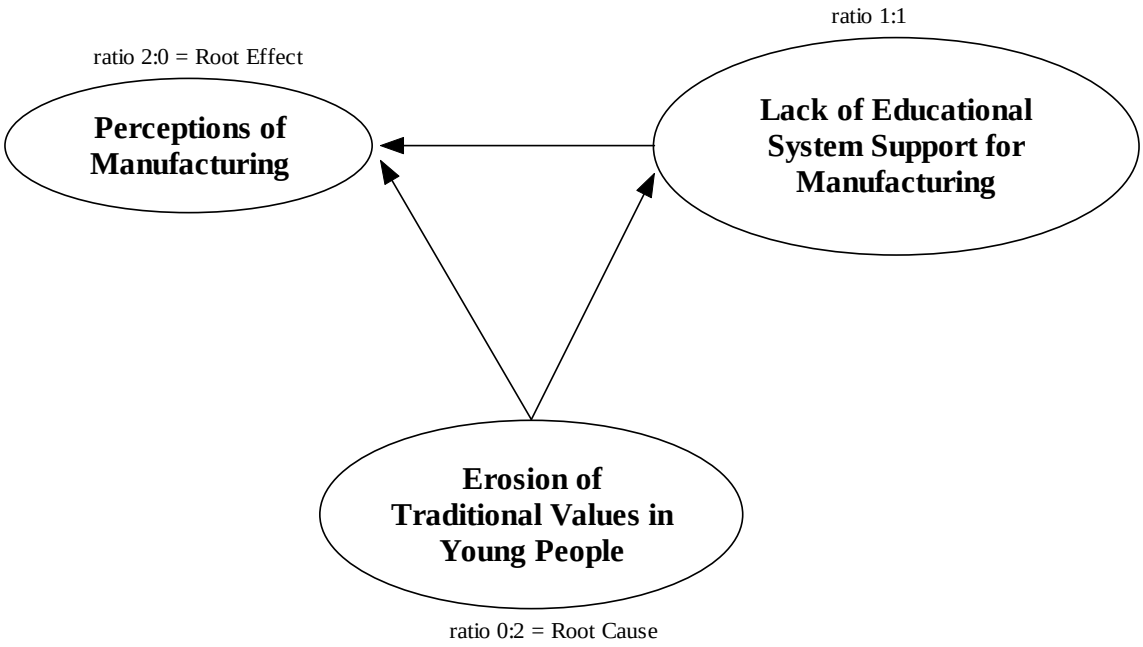
ratio #lines in: #lines out
Greatest # of lines in = Root Effect
Greatest # of lines out = Root Cause

AFFINITY DIAGRAM

Manufacturers, Fulton Co. 11.22.05

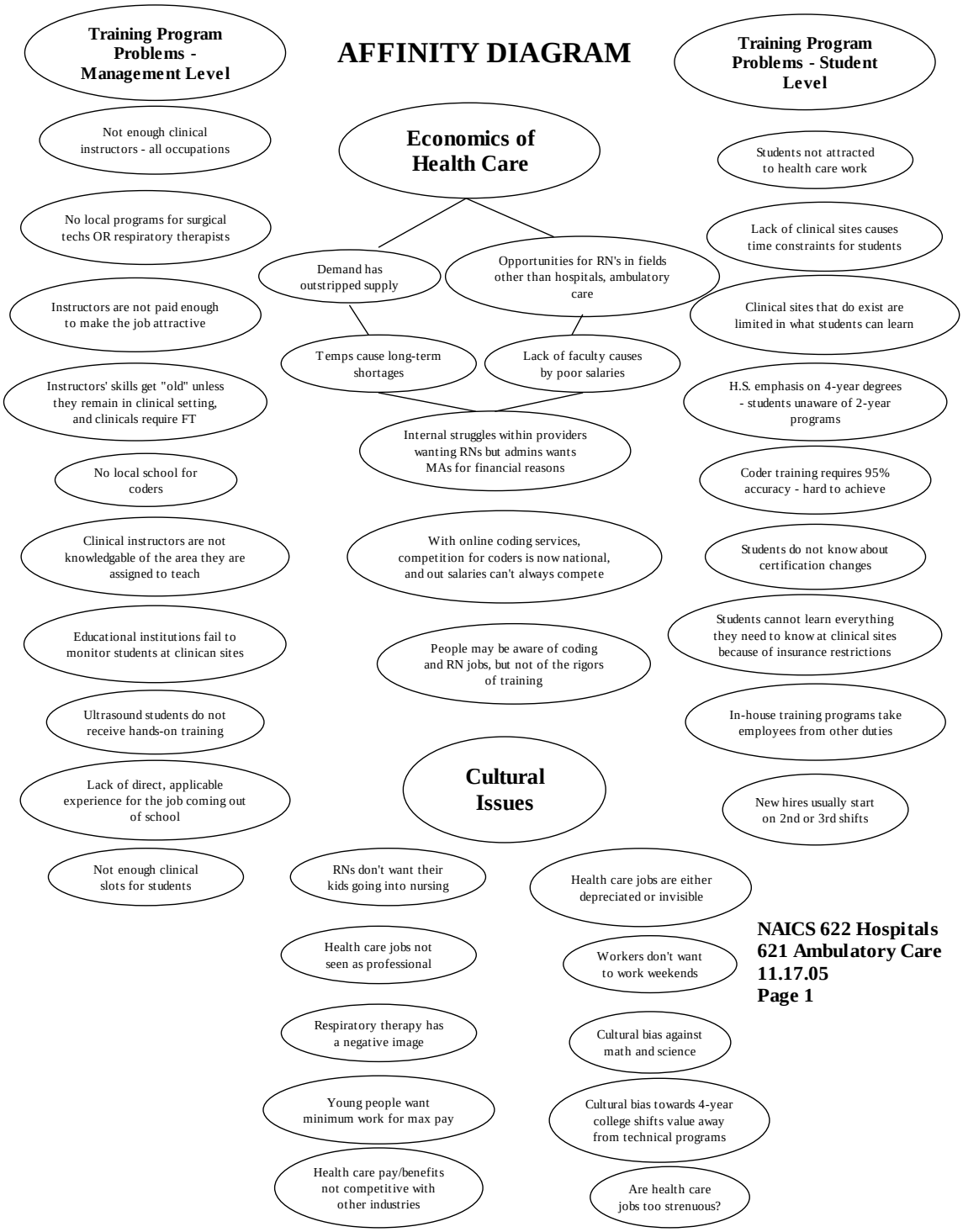
RELATIONAL DIAGRAM

Manufacturers, Fulton Co., 11.22.05



ratio #in: #out
Greatest number of lines in = Root Effect
Greatest number of lines out = Root Cause

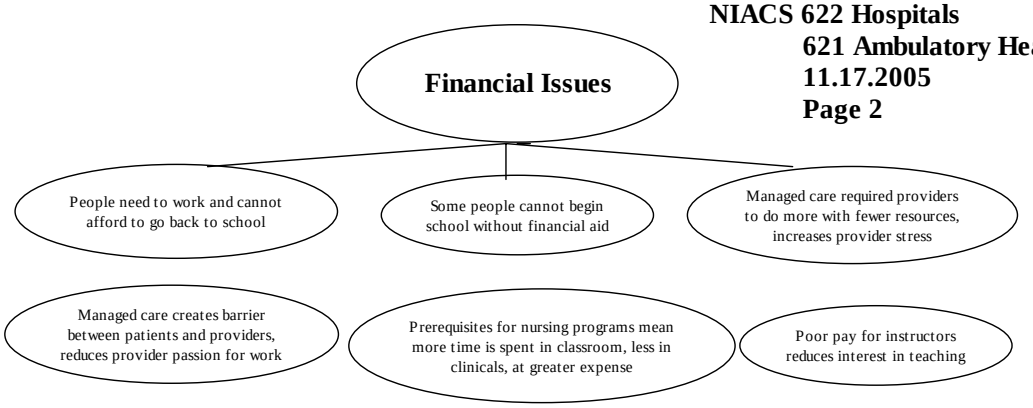
AFFINITY DIAGRAM
HEALTH CARE SUMMIT
11/17/05
NAICS 621-Ambulatory Care, 622-Hospitals



NAICS 622 Hospitals
621 Ambulatory Care
11.17.05
Page 1

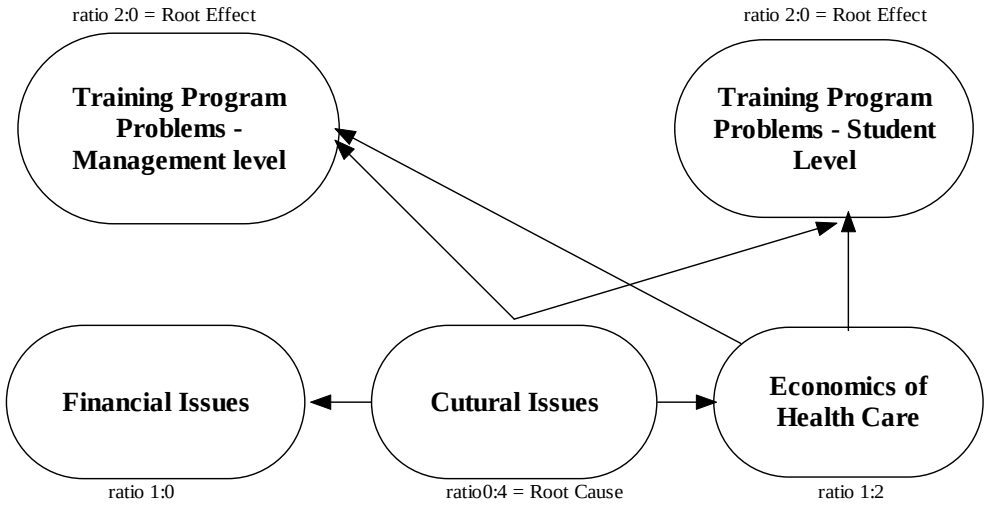
AFFINITY DIAGRAM

NIACS 622 Hospitals
621 Ambulatory Health Care
11.17.2005



RELATIONAL DIAGRAM

NAICS 621 and 622



Ratio #lines in: #lines out
Greatest number of lines in = Root Effect
Greatest number of lines out = Root Cause

Health Care Summit
Notes
November 17, 2005
Amish Acres – Nappanee, IN

Attendees:
Jinny Longbrake – Memorial Hospital
Jackie Neuman – IUSB
Joe Jarboe – Kosciusko Community Hospital
Lynn Eberle – Kosciusko Community Hospital
Nicole Lambert - Kosciusko Community Hospital
Cassie Fox - Kosciusko Community Hospital
Jennifer Straw – St. Joseph Regional Med Center
Marv Yoder – Memorial Hospital
Julian Lewiecki – Memorial Hospital
Kathy Lapierre – Memorial Hospital
Kim Wilcoxson – WorkOne

The group discussed the most difficult occupations to fill:

- Respiratory Therapist
- Registered Nurse
- Transcription
- Coder
- RAD Tech
- Ultra Sound Technologist
- Nuclear Medicine Technologist
- Surgical Technician

Why do these shortages exist:

- 2-3 years ago schools closed down due to federal credentialing changes
- In house training
- Students in high school and other individuals do not know about health care careers
- Better job opportunity somewhere else
- No local training programs
    - Respiratory Therapist – nearest school in Michigan City
    - Surgical Technicians – nearest school in Fort Wayne
    - Too expensive for schools to offer the program
- Image of the profession that people get turned off with
- Health care not viewed as professional occupation
- Increased demand in the area

- Lack of awareness of certain professions/opportunities in the health care industry
  e.g., surgical technicians
- Not competitive to other occupations
- Core problem is the whole mind set of a kid coming out of high school going to college. 4 years or 2 years for general degree. A lot of young people do not know what they want. Some specialized fields only require a two year degree.
- High school emphasize 4 year degree – a cultural bias towards college and shift awareness away from technical training.
- Reluctant for in house employees to assist with training students/Lack of mentorship – Lack of involvement with the program to assist students with clinicals.
- School does not prepare individual for working in the workplace. School is only partial. Workplace has its own way of doing things and have to train employee
- Limitation of clinical sites
    - Many facilities willing to offer clinicals during the evenings or weekends
      Due to time constraints this does not always work for the students
- In house training may take Respiratory Therapist s away from other duties.
- Practitioners prefer to work with more highly trained individuals
    - Students are limited with hands on training and restricted by what they can do.
        - Insurance limitations with the hospitals
- Because of shortages of experts in specialized areas, Nursing Instructors are not very knowledgeable in specialized areas they are required to teaching –

e.g, specialty in Nursing is psychology but they are teaching pregnancy care

- Training programs are unaware of the needs that coders have
- Lack of faculty to teach
    - People that do the work do not feel competent enough to teach others even though they have the necessary skills needed to do the job
    - No Salary incentive
    - No logical track that people can do to become instructors
    - Schools can not have more part time instructors than you have full time
        - More nurses willing to teach, but only want to do it part time
    - Schools pre-requirements are stringent

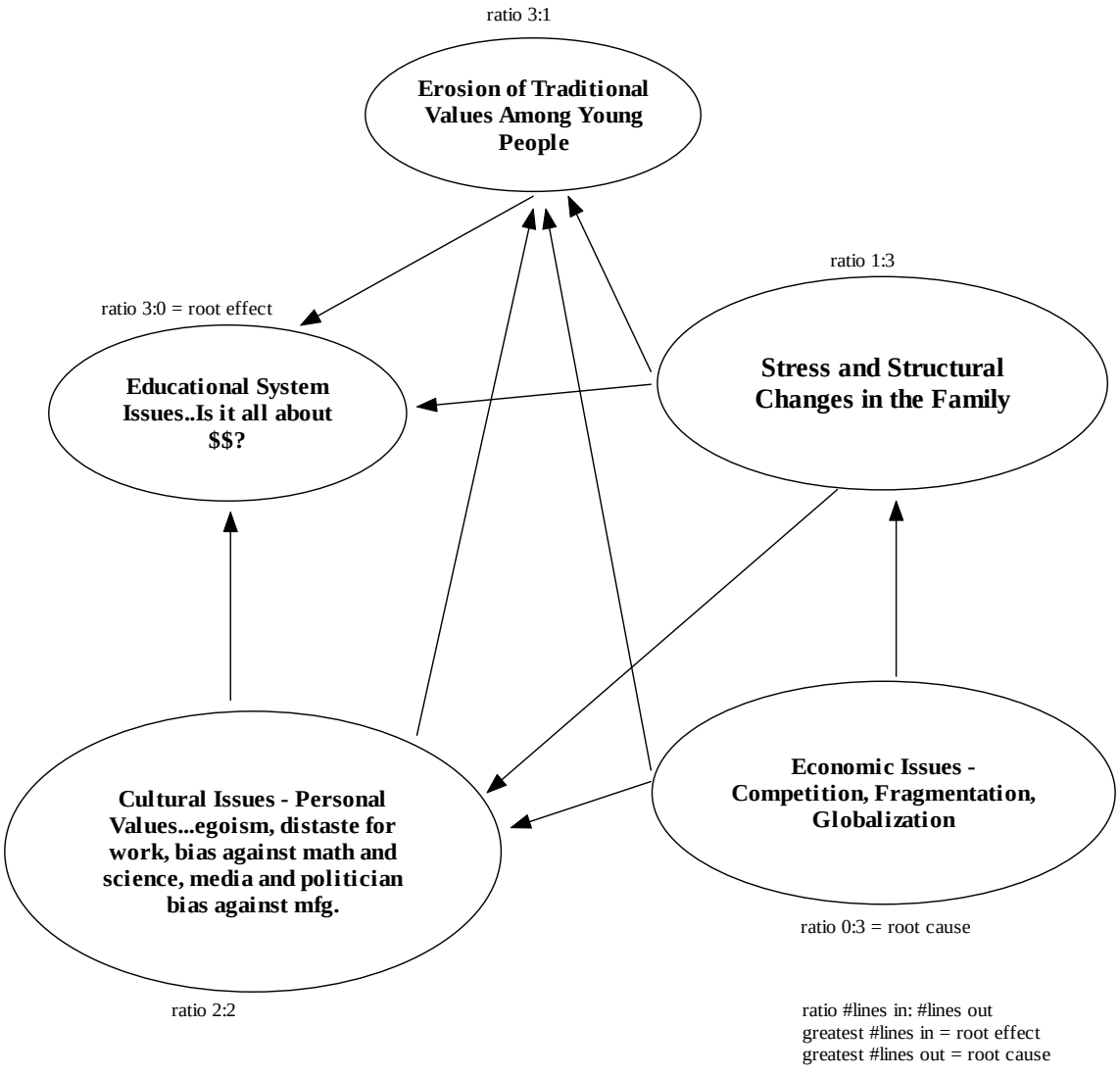
- Students not motivated to become certified to do job sufficiently
- Nationwide competitive for Coders and Transcriptionist
    - Temporary agencies raising the cost to get quality workers
- People in the health care industry has not done a good job promoting the industry as an attractive industry.
    - Employers worst sales person. A nurse job is a difficult job
        - Some nurses will not recommend career to their children
- Unaffordable tuition for training
- More opportunities for nurses to work in other areas other than the hospital.

The group categorized the issues into phases.

- Educational Programmatic Issues
- Cultural Issues
- Financial Issues
- Economics of Health Care
- Training Deficiencies
- Institutional Deficiencies in Training
- Program Flaws/Lack

Root Effect: Educational Programmatic Issues
Root Cause: Cultural Issues

RELATIONAL DIAGRAM
Supplier Focus Group - Educators, Workforce Staff, and Staffing Agency Representatives
11.30.05



Supply Side/Educators WorkOne
Focus Group Notes
November 30, 2005
WorkOne Center – St. Joseph County

Attendees:
Melissa Denton – Ivy Tech Community College
Dawn Feller – Ivy Tech Community College
Nancy Ross – DWD
Kim Wilcoxson – WorkOne
Larry King – WorkOne
Lisa Bohner – Staffing Services
Suzanne Wheeler – Purdue University – TAP
Howard Blackwood – WorkOne
Wendy Hatcher – WorkOne
Deja Ream – WorkOne
Mary Jo Regan–Kubinski – IUSB
Carolyn Fermoyle – IUSB
Tom Primrose – WorkOne
Sonja Matheny – WorkOne
Graig Toth – WorkOne
Dave Brinkruff – Ivy Tech Community College
Jackie Neuman – IUSB
Alonzo Poindexter – JobWorks
Al Hairston – JobWorks

The two goals for the focus group:

Goal 1: TO uncover the root cause of the shortage of workers and skills in key occupation (outcome of 1st Focus Group)

Goal 2: To begin the process of identifying possible solution to the root cause

There are four basic resolutions of the skills and worker shortages in the Health Care Industry

- Training program problems from a management level
- Training program problems from the student level
- Economics of health care and certain issues in the economic sphere that cause constraints because the people they need are not getting there
- Cultural Issues

The occupations are Medical Assistants, Registered Nurses, Coders and Respiratory Therapist, RAD Techs, Surgical Technologist and Ultra Sound Technicians.

From a management point of view in terms of hospital administration, schools and faculty. The problem has to do with finding faculty with appropriate experience and who want to teach. Funding faculty is also an issue. In this area, we are missing programs in Respiratory Therapist. There are all types of issues with clinicals.

Training Program Problem with Students

- not an attractive industry
- finding funding
- rigorous training
- high school do not promote

Issues

- The lack of nursing faculty
- The colleges/university blames hospitals for not having enough facilities for the clinical sites and the hospitals are blaming for the schools saying they do not have enough professors to offer enough classes. The Hospitals blame the schools for not supervising the people at the clinical sites.
- Faculty must have a MSN or PhD to teach in the either the Associate Degree or the Bachelors program. An LPN program can be taught by a BSN Registered Nurse.
- People waiting to get into the nursing program and get tired of waiting. Some try to get clerical jobs in the nursing industry until they are able to get into the nursing programs.
- The ladder into the nursing for people who are waiting is to be a Certified Nursing Assistant. You can get patient experience. Move you up the ladder to get into the nursing program.
- WIA funding cannot fund Registered Nurses or MA. The further they can fund are CNAs and Phlebotomy. The service provider has a cap of $5,000 for training.
- Increase male interest into the profession
- No glamour in the medical industry
- Nurses need a public relations campaign
- Employer and Employee loyalty
- Not a good media perception of the manufacturing and health care industries

Manufacturing Industry Problems

- Education System – Mismatch
- Family Issues
- Generation X issues
- Cultural Issues

Causes

- Erosion of traditional values
- Stress and structural change in the family
- Education System Issues – is it all about the money
- Economic Issues – Competition, globalization
- Cultural Issues – "Me First"

Dan's Board NOTES:

Causes – Health Care

Lack of Nursing Faculty

Finding faculty --- most critical – salary compression

BSN Make almost as much as MSN level pay

Not enough MSN to teach

MSN's earn more than in practicing team clinicals

Solution: Increase nursing faculty salary by 50%

Minor – manikins

CNA – RN – Pay for cost – aval CNA's for this (see Phil)

Johnson/Johnson Campaign – visibility of nurses

Nursing 2000 – to expose career opportunity

ROOT CAUSE: Economic Issues

ROOT EFFECT: Educational System

SOLUTIONS:

- Advertise and develop public relations program to change the image of manufacturing and health care industry. In Virginia it's called the other 4 year degree
- Become a maintenance person in a manufacturing company (another 4 year program)
- Create entry level ladders
- Kalamazoo incentive plan for individuals to attend college
- Create partnerships with companies – strengthen commitment if they are trained will you hire them?
- Mentoring

Dan informed the group that would like to have a combined focus group meeting for suppliers and customers. He asked for help in getting employers to this summit.

A survey is being sent out to Manufacturing and Health Care Employees.

Julie Neuman offered to get some people from Elkhart County attend this meeting

Dawn Feller is willing to hand deliver letter to companies who she already has an established relationship with.

Surveys and Results

The Northern Indiana SSI team conducted six (6) sets of surveys, to a variety of EGR2 employee, employer, and educational/training institution groups:

1. Employee Feedback survey
2. Human Resource Managers survey
3. Post-Secondary Student survey
4. Post-Secondary Institutional surveys
5. Secondary School data surveys
6. Secondary Student survey

The surveys of Secondary Students and Post-Secondary Students were distributed in person by NIWIB research assistants, and then were collated by those assistants and summarized electronically. The Employee Feedback Surveys were distributed by the Human Resource departments of the organizations offering to participate in the survey, along with a SASE, and the participating employees completed the survey and mailed it back to a local research organization, which tabulated and compiled the results, a portion of which are reported below. Altogether, 1078 manufacturing employee surveys were returned, a return rate of 30.0%. In addition, 396 health care employee surveys were returned, a return rate of 28.5%. Thus, the results of these surveys can be considered statistically significant for EGR2 as a whole.

The other surveys, those addressing human resource and retention issues, those soliciting information as to secondary vocational/technical course offerings, and those investigating the program capacity/enrollment/graduation rates and dropout rates of EGR2 higher educational institutions, were conducted via the Internet.

Additional data about EGR2 schools, both secondary and post-secondary, were acquired via the Internet, as cited in the sections of this Appendix.

The goal of the various surveys was to gather and assess the opinions of people at different locations in the pipeline as to their perceptions of manufacturing and health care occupations, their awareness of the particular occupations and skills identified in the Shortage Report, and their perceptions of the root causes of those shortages.

Northern Indiana Workforce Investment Board
Employee Feedback Survey

Methodology

The data for this report was gathered from 1,445 completed questionnaires, which had been distributed to the employees of various organizations in St. Joseph, Elkhart, Marshall and Kosciusko counties of Indiana. Completed questionnaires were returned to Midwest Marketing Research either via MMR's business reply envelopes or via overnight delivery from the organizations. 1,390 questionnaires were distributed to the employees of four hospitals within the geographic area and 3,602 questionnaires were distributed to the employees of twenty industrial firms in the same area. 396 returns were received for the hospital group, which was a 28.5% response rate. 1,078 returns were received for the industrial group, which was a 30% response rate. The survey was conducted from November 23, 2005 through December 15, 2005.

The data from each question on the questionnaire was tabulated. Selected additional cross-tabulations were completed for all organizations, job types and occupational sectors.

The margin of error when analyzing all responses for the industrial survey is plus or minus 2.75%. The margin of error when analyzing all responses for the medical survey is plus or minus 4.5%.

The questionnaire was created by representatives of the Northern Indiana Workforce Investment Board.

Employee Feedback Survey

Purpose: To provide an understanding of the causes for critical skill shortages from an employee point of view.
To prepare for implementing solutions - attacking the causes and alleviating the shortages.

Private: Workforce Investment Board (WIB) provides the survey, as a word document by e-mail (or hand delivered to you). Self addressed, stamped envelopes will be sent to you from Midwest Marketing Research. Midwest Marketing Research receives and tallies all individual surveys, and produces a specific report available to your organization and Workforce Investment Board. An overall report will also be available for your industry sector.

Process:
1. WIB provides the Employee Feedback Survey to you.
2. Midwest Marketing Research sends, overnight the number of stamped, return envelopes to your attention.
2. You ask them to quickly fill out, (note deadline on survey of Friday December 9th) place in the sealed envelope and mail.
3. Midwest Marketing Research number crunches and analyzes.
4. We send you the results and invite you to a meeting to review all root cause findings as a result of reviewing literature, managerial focus groups and the employee survey. The meeting will be held on December 20th, 2005 from 8:00 to 10:00 AM, at Swan Lake, Plymouth, IN. Please make reservations with Barbara White, our Office manager at 547-2380 ext. 234.

Cost to You: None

Survey Questions: See handout attached.

Northern Indiana Workforce Investment Board

Industrial Employee Feedback Survey

1. What is your occupation? __welder (514121) __first-line supervisor (511011)
   __transportation equip painter (519122) __CNC operator (514011)
   __truck driver (533032) __industrial engineering tech (173026)
   __polisher (519000) __other(specify)_____ (100000)

2. What led you to decide to work at this occupation? (circle all that apply)
   A Father or other relative had a similar job.
   B. High school guidance counselor or teacher suggested it.
   C. A friend had this or a similar job.
   D. Answered a want ad that sounded interesting.
   E. Don't know, just ended up in this occupation.

3. In high school, did you learn the skills you needed for this job? (circle one)
   A. Yes
   B. Some of them
   C. I went to a technical program specializing in this occupation.
   D. No
   E. School was a start, but I needed a lot of on-the-job training.

4. What did you NOT learn in school that you needed for the job? (circle one)
   A. Math
   B. Computer skills
   C. Discipline
   D. Reading detailed paperwork, like a chart, drawing, or print.
   E. How to use measuring instruments.
   F. Other _____

5. Do new hires in this job know what they need to know? (circle one)
   A. Yes, pretty much.
   B. No, they need some training.
   C. They arrive with a certification or degree that has prepared them.
   D. Yes, but only the basics.
   E. No, they need a lot of training.

6. Are there enough people doing what you do to keep you from being overwhelmed by work? (circle one)
   A. My company doesn't have any trouble finding people to work in this occupation.
   B. My company has trouble finding workers who can do what I do.
   C. There seems to be a general shortage of workers in this occupation in the area.
   D. There are plenty of people around who can do this work, but they are not applying for jobs here.
   E. There aren't enough training programs to meet the demand for people in this occupation.

7. Would you be interested in getting some training to move up to a higher level position? (circle one)
   A. No, I'm at the level I want to be.
   B. No, more training would take too much time and money.
   C. Yes, if the company or some program paid for it.
   D. Yes - and I would pay for it if I could be certain of getting a better-paying job.
   E. Yes, if my company would pay me for the time it takes to get the training.

8. Does your employer hire and keep good workers? (circle one)
   A. Yes, we have a lot of good, well-trained people working here.
   B. Yes, but it seems to be a real struggle to find good workers.
   C. No, because they don't pay enough to attract good workers.
   D. No, because they don't treat their employees very well.
   E. No, because there aren't enough good workers in the occupations we need.

9. If you had to do it all over, what would you do? (circle one)
   A. I would work at the same occupation.
   B. I would go further in school in order to improve my chances for a better job.
   C. I would get more technical training in order to become more skilled.
   D. I would go to college.
   E. I would look for a different occupation.

10. Please indicate the range in which your age falls: __20-29 __30-39 __40-49 __50-59 __60+

11. Please write any solutions you have for skills shortages on the back of this paper.

Northern Indiana Workforce Investment Board

Medical Employee Feedback Survey

Circle Answer:

1. What is your occupation?
   - A. Medical assistant
   - B. Registered nurse
   - C. Respiratory therapist
   - D. Records tech/coder
   - E. Radiologic tech
   - F. Surgical tech
   - G. Other (specify)_____

2. What led you to decide to work at this occupation? (circle all that apply)
   - A. A relative or friend had a similar job.
   - B. High school guidance counselor or teacher suggested it.
   - C. I was always interested in health care professions.
   - D. I had some experience at lower-level health care jobs and decided to move up.
   - E. Don't know, just ended up in this occupation.

3. In school/college, did you learn the skills you needed for this job? (circle one)
   - A. Yes
   - B. Some of them.
   - C. My education prepared me for this occupation very well.
   - D. No
   - E. School was a start, but I needed a lot of on-the-job training.

4. What did you NOT learn in school/college that you needed for the job? (circle one)
   - A. Communications skills
   - B. Computer skills
   - C. Discipline/motivation
   - D. Reading detailed paperwork, like a chart.
   - E. How to use the technology I use on the job.
   - F. Other _____

5. Do recent graduates in this job know what they need to know? (circle one)
   - A. Yes, pretty much.
   - B. No, they need some training.
   - C. They arrive with a certification or degree that has prepared them adequately.
   - D. Yes, but only the basics.
   - E. No, they need a lot of training.

6. Are there enough people doing what you do to keep you from being overwhelmed by work? (circle one)
   - A. My employer doesn't have any trouble finding people to work in this occupation.
   - B. My employer has trouble finding workers who can do what I do.
   - C. There seems to be a general shortage of workers in this occupation in the area.
   - D. There are plenty of people around who can do this work, but they are not applying here.
   - E. There aren't enough training programs to meet the demand for people in this occupation

7. Would you be interested in getting some additional training/education to move up to a higher level position? (circle one)
   - A. No, I'm at the level I want to be.
   - B. No, more training would take too much time and money.
   - C. Yes, if my employer or some program paid for it.
   - D. Yes - and I would pay for it if I could be certain of getting a better-paying job.
   - E. Yes, if my company would pay me for the time it takes to get the training.

8. Does your employer hire and keep good workers in your occupation? (circle one)
   - A. Yes, we have a lot of good, well-trained people working here.
   - B. Yes, but it seems to be a real struggle to find good workers.
   - C. No, because they don't pay enough to attract good workers.
   - D. No, because they don't treat their employees very well.
   - E. No, because there aren't enough good workers in the occupations we need.

9. If you had to do it all over, what would you do? (circle one)
   - A. I would work at the same occupation.
   - B. I would go further in school in order to improve my chances for a higher level job.
   - C. I would get more technical training in order to become more skilled.
   - D. I would take more college courses.
   - E. I would look for a different occupation.

10. Please indicate the range in which your age falls: __20-29 __30-39 __40-49 __50-59 __60+

11. Please write any solutions you have for skills shortages on the back of this paper.

Northern Indiana Workforce Investment Board
Employee Feedback Survey Results

Executive Summary

The purpose of this survey was to determine the job skill and training needs of the medical and industrial workforce in St. Joseph, Elkhart, Marshall and Kosciusko counties.

Selected Results – Industrial Combined

58% of all responses were from the transportation equipment sector while 20% came from fabricated metal products and 18% came from plastics and rubber products.

20 employers responded with 56% of the responses coming from 3 of those 20 employers.

The most frequently reported job type was "other" at 62% followed by CNC Operator at 13%, First-Line Supervisor at 11%, Welder at 8% and Painter at 3%. Among the "other" responses, assembly, group leader, general labor or production, machine operator, material handler, packer, press operator and shipping were among the most frequent responses.

39% of all respondents said they didn't know what led them to select their current occupation while 27% said a friend had held a similar job, 17% said a relative had held a similar job and 13% had answered an interesting ad.

43% of respondents indicated that they had not learned the skills needed for their job in high school while 23% felt they had received some of those skills, 18% said they needed on the job training and 13% felt they had learned the skills needed while in high school.

33% of respondents said they did not learn computer skills in school while 24% referred to "other" skills not learned, 17% named reading drawings and prints, 14% named using measurement instruments, 6% named discipline and 5% named math. Among the "other" responses were "people skills" and "English" – most other responses indicated that the respondent had not learned the requisite skill for whichever job they now held.

69% of respondents indicated that new hires to the job need either some or a lot of training in order to perform their job. 21% of respondents felt that the new

hires knew what they needed to know, but only the basics. 9% felt that new hires came with all the training required.

36% of respondents thought that their company had no trouble finding employees while 23% thought that their employer did have trouble. 18% felt that there was no worker shortage but that people were not applying for jobs and 14% felt that there was a general shortage of workers. 8% indicated that there were not enough training programs.

40% of respondents were interested in getting more training so they could move up if their employer paid for it while 24% were interested if their company paid for their time to pursue further education. 18% were satisfied with their current job level, 15% said they would pay their own way and 2% felt that pursuing more education required too much time and money.

69% of respondents felt that their employer hired and kept good workers although 40 % of those respondents said it was a struggle to find those employees. 16% of respondents felt that their employer did not pay enough, 10% felt that employees in their company were not treated well and 4% thought that there were not enough good workers at their company.

If they had it to do over again, 38% of respondents would get more schooling, 19% would get more technical training, 17% would go to college, 16% would work at the same occupation and 10% would look for a different occupation.

78% of the respondents were evenly distributed by age between 20 and 49 years of age. 18% fell into the 50-59 category and 3% were 60 and over.

Cross-Tabulation of Results By Job Type – First-Line Supervisors

60% of respondents came from the transportation equipment segment while 27% came from fabricated metal products and 10% came from plastics and rubber products.

This job type was proportionately distributed among all 20 employers.

32% of all respondents said they didn't know what led them to select their current occupation while 20% said a friend had held a similar job, 30% said a relative had held a similar job and 13% had answered an interesting ad. 5% mentioned a school counselor/teach suggested it.

31% of respondents indicated that they had not learned the skills needed for their job in high school while 31% felt they had received some of those skills, 28% said

they needed on the job training and 8% felt they had learned the skills needed while in high school.

60% of respondents said they did not learn computer skills in school while 9% referred to "other" skills not learned, 21% named reading drawings and prints, 3% named using measurement instruments, 6% named discipline and 0% named math. Among the "other" responses were "people skills" and "leadership skills".

79% of respondents indicated that new hires to the job need either some or a lot of training in order to perform their job. 15% of respondents felt that the new hires knew what they needed to know, but only the basics. 5% felt that new hires came with all the training required.

24% of respondents thought that their company had no trouble finding employees while 34% thought that their employer did have trouble. 17% felt that there was no worker shortage but that people were not applying for jobs and 17% felt that there was a general shortage of workers. 9% indicated that there were not enough training programs.

37% of respondents were interested in getting more training so they could move up if their employer paid for it while 16% were interested if their company paid for their time to pursue further education. 34% were satisfied with their current job level, 12% said they would pay their own way and 1% felt that pursuing more education required too much time and money.

69% of respondents felt that their employer hired and kept good workers although 58% of respondents said it was a struggle to find those employees. 21% of respondents felt that their employer did not pay enough, 3% felt that employees in their company were not treated well and 7% thought that there were not enough good workers at their company.

If they had it to do over again, 29% of respondents would get more schooling, 20% would get more technical training, 27% would go to college, 14% would work at the same occupation and 9% would look for a different occupation.

<u>Cross-Tabulation of Results By Job Type – CNC Operators</u>

44% of respondents came from the transportation equipment segment while 31% came from fabricated metal products and 4% came from plastics and rubber products. 22% came from miscellaneous manufacturing – medical.

This job type was present among one-third of the 20 employers.

28% of all respondents said they didn't know what led them to select their current occupation while 31% said a friend had held a similar job, 18% said a relative had held a similar job and 19% had answered an interesting ad. 4% mentioned a school counselor/teach suggested it.

38% of respondents indicated that they had not learned the skills needed for their job in high school while 25% felt they had received some of those skills, 16% said they needed on the job training and 16% felt they had learned the skills needed while in high school.

39% of respondents said they did not learn computer skills in school while 8% referred to "other" skills not learned, 19% named reading drawings and prints, 20% named using measurement instruments, 6% named discipline and 8% named math. Among the "other" responses, there were significant recurring responses.

70% of respondents indicated that new hires to the job need either some or a lot of training in order to perform their job. 20% of respondents felt that the new hires knew what they needed to know, but only the basics. 10% felt that new hires came with all the training required.

21% of respondents thought that their company had no trouble finding employees while 31% thought that their employer did have trouble. 18% felt that there was no worker shortage but that people were not applying for jobs and 21% felt that there was a general shortage of workers. 10% indicated that there were not enough training programs.

42% of respondents were interested in getting more training so they could move up if their employer paid for it while 23% were interested if their company paid for their time to pursue further education. 7% were satisfied with their current job level, 25% said they would pay their own way and 2% felt that pursuing more education required too much time and money.

69% of respondents felt that their employer hired and kept good workers although 38% of respondents said it was a struggle to find those employees. 19% of respondents felt that their employer did not pay enough, 10% felt that employees in their company were not treated well and 5% thought that there were not enough good workers at their company.

If they had it to do over again, 42% of respondents would get more schooling, 18% would get more technical training, 13% would go to college, 17% would work at the same occupation and 10% would look for a different occupation.

Cross-Tabulation of Results By Job Type – Painters (Transportation Equipment)

91% of respondents came from the transportation equipment segment while 9% came from fabricated metal products.

This job type was present predominantly among 2 of the 20 employers.

34% of all respondents said they didn't know what led them to select their current occupation while 16% said a friend had held a similar job, 22% said a relative had held a similar job and 22% had answered an interesting ad. 6% mentioned a school counselor/teach suggested it.

47% of respondents indicated that they had not learned the skills needed for their job in high school while 28% felt they had received some of those skills, 13% said they needed on the job training and 6% felt they had learned the skills needed while in high school.

21% of respondents said they did not learn computer skills in school while 41% referred to "other" skills not learned, 3% named reading drawings and prints, 14% named using measurement instruments, 10% named discipline and 10% named math. Among the "other" responses was "how to paint".

66% of respondents indicated that new hires to the job need either some or a lot of training in order to perform their job. 22% of respondents felt that the new hires knew what they needed to know, but only the basics. 13% felt that new hires came with all the training required.

32% of respondents thought that their company had no trouble finding employees while 16% thought that their employer did have trouble. 32% felt that there was no worker shortage but that people were not applying for jobs and 19% felt that there was a general shortage of workers. 0% indicated that there were not enough training programs.

31% of respondents were interested in getting more training so they could move up if their employer paid for it while 25% were interested if their company paid for their time to pursue further education. 13% were satisfied with their current job level, 28% said they would pay their own way and 3% felt that pursuing more education required too much time and money.

63% of respondents felt that their employer hired and kept good workers although 41% of respondents said it was a struggle to find those employees. 31% of respondents felt that their employer did not pay enough, 3% felt that

employees in their company were not treated well and 3% thought that there were not enough good workers at their company.

If they had it to do over again, 44% of respondents would get more schooling, 16% would get more technical training, 13% would go to college, 16% would work at the same occupation and 13% would look for a different occupation.

Cross-Tabulation of Results By Job Type – Welders

49% of respondents came from the transportation equipment segment while 48% came from fabricated metal products.

83% of this job type was distributed among 4 of the 20 employers.

35% of all respondents said they didn't know what led them to select their current occupation while 31% said a friend had held a similar job, 11% said a relative had held a similar job and 11% had answered an interesting ad. 12% indicated that a school counselor or teacher had suggested it.

48% of respondents indicated that they had not learned the skills needed for their job in high school while 21% felt they had received some of those skills, 13% said they needed on the job training and 12% felt they had learned the skills needed while in high school.

23% of respondents said they did not learn computer skills in school while 27% referred to "other" skills not learned, 29% named reading drawings and prints, 9% named using measurement instruments, 9% named discipline and 3% named math. Among the "other" responses was "welding".

66% of respondents indicated that new hires to the job need either some or a lot of training in order to perform their job. 26% of respondents felt that the new hires knew what they needed to know, but only the basics. 9% felt that new hires came with all the training required.

43% of respondents thought that their company had no trouble finding employees while 25% thought that their employer did have trouble. 16% felt that there was no worker shortage but that people were not applying for jobs and 8% felt that there was a general shortage of workers. 7% indicated that there were not enough training programs.

38% of respondents were interested in getting more training so they could move up if their employer paid for it while 32% were interested if their company paid for their time to pursue further education. 12% were satisfied with their current

job level, 18% said they would pay their own way and 1% felt that pursuing more education required too much time and money.

60% of respondents felt that their employer hired and kept good workers although 29% of respondents said it was a struggle to find those employees. 29% of respondents felt that their employer did not pay enough, 7% felt that employees in their company were not treated well and 4% thought that there were not enough good workers at their company.

If they had it to do over again, 40% of respondents would get more schooling, 19% would get more technical training, 15% would go to college, 18% would work at the same occupation and 7% would look for a different occupation.

Selected Results – Medical Combined

Four hospitals responded with 74% of the responses coming from one of those four hospitals.

The most frequently reported job type was registered nurse at 58% followed by medical assistant at 12%, respiratory therapist at 8% and records tech/decoder at 4%.

When asked what led them to select their current occupation, 54% of all respondents said they had always been interested in health care while 16% said they had prior experience and moved up, 15% said a relative had held a similar job and 9% didn't know. 5% mentioned suggestions from a high school counselor or teacher.

34% of respondents indicated that they learned the skills needed for their job in school/college while 25% said they needed on the job training, 20% said they learned some of the necessary skills in school/college and 15% felt that school had prepared them well for the job.

32% of respondents said they did not learn computer skills in school while 27% mentioned using technology needed for the job, 23% named "other" skills, 9% named communication skills, 7% named reading detailed paperwork and 2% named discipline/motivation. Among the most frequently mentioned "other" responses were "organizational skills", "prioritizing", "hands on experience", "specialization" and "real world experience with real patients".

52% of respondents indicated that new graduates have the training they need in order to perform their job although 39% said the new graduates know only the

basics. 21% of the respondents felt that the new graduates still need some training, and 23% felt that they need a lot of training.

43% of respondents thought that there is a shortage of workers and another 22% thought their employer had trouble finding workers. 21% felt that their employer had no trouble finding workers. 8% said there was no shortage but people were not applying and 6% indicated that there were not enough training programs.

42% of respondents were interested in getting more training so they could move up if their employer paid for it while 29% were satisfied with their current level. 15% said they would be interested if their hospital paid for their time to pursue further education while 10% said they would pay their own way and 5% felt that pursuing more education required too much time and money.

75% of respondents felt that their employer hired and kept good workers although 30% of respondents said it was a struggle to find those employees. 10% of respondents felt that their employer did not pay enough, 11% felt that employees in their hospital were not treated well and 4% thought that there were not enough good workers at their hospital.

If they had it to do over again, 45% of respondents would work at the same occupation, 28% would get more schooling, 18% would look for a different occupation, 6% would get more technical training and 3% would take more college courses.

62% of respondents were over 40 years of age while 38% were under 40.

<u>Cross-Tabulation of Results By Job Type – Medical Assistants</u>

When asked what led them to select their current occupation, 65% of all respondents said they had always been interested in health care while 13% said they had prior experience and moved up, 6% said a relative had held a similar job and 12% didn't know. 4% mentioned suggestions from a high school counselor or teacher.

40% of respondents indicated that they learned the skills needed for their job in school/college while 19% said they needed on the job training, 23% said they learned some of the necessary skills in school/college and 16% felt that school had prepared them well for the job.

19% of respondents said they did not learn computer skills in school while 33% mentioned using technology needed for the job, 19% named "other" skills, 8%

named communication skills, 17% named reading detailed paperwork and 3% named discipline/motivation. Among the "other" responses there was no one dominant need.

63% of respondents indicated that new graduates have the training they need in order to perform their job although 29% said the new graduates know only the basics. 29% of the respondents felt that the new graduates still need some training, and 7% felt that they need a lot of training.

45% of respondents thought that their employer had no trouble finding people, 26% felt that there is a shortage of workers and another 19% thought their employer had trouble finding workers. 10% said there was no shortage but people were not applying and 0% indicated that there were not enough training programs.

62% of respondents were interested in getting more training so they could move up if their employer paid for it while 26% were interested if their hospital paid for their time to pursue further education. 7% said they would pay their own way and 2% felt that pursuing more education required too much time and money. 2% were satisfied with their current level.

77% of respondents felt that their employer hired and kept good workers although 28% of respondents said it was a struggle to find those employees. 16% of respondents felt that their employer did not pay enough, 5% felt that employees in their hospital were not treated well and 2% thought that there were not enough good workers at their hospital.

If they had it to do over again, 73% of respondents would get more schooling, 18 % would work at the same occupation, 5% would look for a different occupation, 5% would get more technical training and 0% would take more college courses.

<u>Cross-Tabulation of Results By Job Type – Registered Nurses</u>

When asked what led them to select their current occupation, 55% of all respondents said they had always been interested in health care while 17% said they had prior experience and moved up, 18% said a relative had held a similar job and 6% didn't know. 4% mentioned suggestions from a high school counselor or teacher.

32% of respondents indicated that they learned the skills needed for their job in school/college while 29% said they needed on the job training, 21% said they

learned some of the necessary skills in school/college and 14% felt that school had prepared them well for the job.

35% of respondents said they did not learn computer skills in school while 27% mentioned using technology needed for the job, 22% named "other" skills, 8% named communication skills, 5% named reading detailed paperwork and 1% named discipline/motivation. Among the most frequently mentioned "other" responses were "organizational skills", "time management", "prioritizing" and "real world experience with real patients".

51% of respondents indicated that new graduates have the training they need in order to perform their job although 43% said the new graduates know only the basics. 17% of the respondents felt that the new graduates still need some training, and 32% felt that they need a lot of training.

46% of respondents thought that there is a shortage of workers and another 23% thought their employer had trouble finding workers. 21% felt that their employer had no trouble finding workers. 4% said there was no shortage but people were not applying and 5% indicated that there were not enough training programs.

38% of respondents were interested in getting more training so they could move up if their employer paid for it while 34% were satisfied with their current level. 12% said they would be interested if their hospital paid for their time to pursue further education while 9% said they would pay their own way and 7% felt that pursuing more education required too much time and money.

73% of respondents felt that their employer hired and kept good workers although 27% of respondents said it was a struggle to find those employees. 10% of respondents felt that their employer did not pay enough, 14% felt that employees in their hospital were not treated well and 2% thought that there were not enough good workers at their hospital.

If they had it to do over again, 54% of respondents would work at the same occupation, 20% would get more schooling, 18% would look for a different occupation, 5% would get more technical training and 2% would take more college courses.

<u>Cross-Tabulation of Results By Job Type – Respiratory Therapists</u>

When asked what led them to select their current occupation, 47% of all respondents said they had always been interested in health care while 18% said they had prior experience and moved up, 13% said a relative had held a similar

job and 16% didn't know. 5% mentioned suggestions from a high school counselor or teacher.

46% of respondents indicated that they learned the skills needed for their job in school/college while 27% said they needed on the job training, 10% said they learned some of the necessary skills in school/college and 17% felt that school had prepared them well for the job.

33% of respondents said they did not learn computer skills in school while 37% mentioned using technology needed for the job, 13% named "other" skills, 7% named communication skills, 7% named reading detailed paperwork and 3% named discipline/motivation. There was no one "other" response that predominated.

70% of respondents indicated that new graduates have the training they need in order to perform their job although 47% said the new graduates know only the basics. 27% of the respondents felt that the new graduates still need some training, and 3% felt that they need a lot of training.

53% of respondents thought that there is a shortage of workers and another 17% thought their employer had trouble finding workers. 0% felt that their employer had no trouble finding workers. 23% said there was no shortage but people were not applying and 7% indicated that there were not enough training programs.

27% of respondents were interested in getting more training so they could move up if their employer paid for it while 37% were satisfied with their current level. 23% said they would be interested if their hospital paid for their time to pursue further education while 10% said they would pay their own way and 3% felt that pursuing more education required too much time and money.

73% of respondents felt that their employer hired and kept good workers although 50% of respondents said it was a struggle to find those employees. 4% of respondents felt that their employer did not pay enough, 12% felt that employees in their hospital were not treated well and 12% thought that there were not enough good workers at their hospital.

If they had it to do over again, 33% of respondents would work at the same occupation, 23% would get more schooling, 37% would look for a different occupation, 3% would get more technical training and 3% would take more college courses.

Cross-Tabulation of Results By Job Type – Records Tech/Coders

When asked what led them to select their current occupation, 60% of all respondents said they had always been interested in health care while 0% said they had prior experience and moved up, 0% said a relative had held a similar job and 30% didn't know. 10% mentioned suggestions from a high school counselor or teacher.

13% of respondents indicated that they learned the skills needed for their job in school/college while 13% said they needed on the job training, 47% said they learned some of the necessary skills in school/college and 7% felt that school had prepared them well for the job. 20% said they did not learn the required skills in school.

14% of respondents said they did not learn computer skills in school while 7% mentioned using technology needed for the job, 50% named "other" skills, 14% named communication skills, 14% named reading detailed paperwork and 0% named discipline/motivation. Among the most frequently mentioned "other" responses were "anatomy and physiology" and "coding".

34% of respondents indicated that new graduates have the training they need in order to perform their job although 20% said the new graduates know only the basics. 53% of the respondents felt that the new graduates still need some training, and 13% felt that they need a lot of training.

50% of respondents thought that there is a shortage of workers and another 14% thought their employer had trouble finding workers. 14% felt that their employer had no trouble finding workers. 0% said there was no shortage but people were not applying and 21% indicated that there were not enough training programs.

40% of respondents were interested in getting more training so they could move up if their employer paid for it while 27% were satisfied with their current level. 7% said they would be interested if their hospital paid for their time to pursue further education while 27% said they would pay their own way and 0% felt that pursuing more education required too much time and money.

86% of respondents felt that their employer hired and kept good workers although 29% of respondents said it was a struggle to find those employees. 7% of respondents felt that their employer did not pay enough, 7% felt that employees in their hospital were not treated well and 0% thought that there were not enough good workers at their hospital.

If they had it to do over again, 40% of respondents would work at the same occupation, 40% would get more schooling, 0% would look for a different occupation, 13% would get more technical training and 7% would take more college courses.

These results are displayed on the following two spreadsheets:

Northern Indiana Workforce Investment Board
Strategic Skills Initiative
Employee Survey Results: by Question #

Question:	Supervisors	CNC Ops	Painters	Welders
1. What led you to work at this occupation?				
Don't know	32%	28%	34%	35%
Friend	20	31	16	31
Relative	30	18	22	11
Want ad	13	19	22	11
School counselor or teacher	5	4	6	12
2. In high school, did you learn what you needed for this job?				
No	31	38	47	48
Some	31	25	28	21
Needed OJT	28	16	13	13
Yes	8	16	6	12
3. What did you NOT learn in H.S. that you need for this job?				
Computer skills	60	39	21	23
Other skills	9	8	41	27
	i.e. "people skills"		i.e. "painting"	i.e. "welding"
Reading drawings, prints, charts	21	19	3	29
Using measuring devices	3	20	14	9
Discipline	6	6	10	9
Math	0	8	10	3
4. Do new hires know what they need to?				
Need some, or a lot of, training	79	70	66	66
They know enough, but only the basics	15	20	22	26
They have all the training they need	5	10	13	9

	Med Asst	Reg Nurse	Resp Ther	Coders
1. What led you to work at this occupation?				
Always interested in health care	65%	56%	45%	50%
Prior experience, moved up	14	16	16	0
Relative	4	18	18	0
Don't know	12	5	15	38
School counselor or teacher	4	5	6	13
2. In school/college, did you learn what you needed				
Basically, yes	40	31	42	8
Needed OJT	18	29	27	15
Learned some of the skills	23	19	12	54
School prepared me well	18	15	15	8
Did not learn what I needed in school	0	0	0	15
3. What did you NOT learn in school that you needed				
Computer skills	18	37	38	17
"Other" skills	21	22	15	50
		i.e. time mgt prioritizing		i.e. A&P coding
Communication skills	9	9	4	17
Reading detailed paperwork	18	18	4	17
Discipline/Motivation	3	3	4	0
4. Do recent grads know what they need to know?				
Yes	67	50	69	39
…but only the basics	31	43	50	23
need SOME training	26	18	27	46
Need a LOT of training	8	32	4	15

Question:	Supervisors	CNC Ops	Painters	Welders
5. Are there enough good people in your occupation?				
No problem finding workers	24	21	32	43
Employer has trouble finding workers	34	31	16	25
No shortage, but folks not applying here	17	18	32	16
Not enough training programs	9	10	0	7
6. Would you be interested in training to move up?				
If employer paid for it	37	42	31	38
If employer paid for it paid for the time it takes	16	23	25	32
No, I'm satisfied with where I'm at	34	7	13	12
No, takes too much time and money	1	2	3	1
7. Does your employer hire and keep good workers?				
Yes	69	70	63	60
…but it's a struggle	58	38	41	29
No, they don't pay enough	21	19	31	29
No, they don't treat their employees well	3	10	3	7
No, there aren't enough good workers	7	5	3	4
8. If you had it to do over, what would you do?				
More schooling	29	42	44	40
More technical training	20	18	16	19
Go to college	27	13	13	15
Same occupation	14	17	16	18
Different occupation	9	10	13	7

	Med Asst	Reg Nurse	Resp Ther	Coders
5. Are there enough good people in your occup?				
Yes, no problem finding workers	41	18	18	15
Employer has trouble finding workers	21	26	26	15
There is a shortage in this area	28	45	54	46
No shortage, but folks not applying here	10	5	5	0
Not enough training programs	0	6	6	23
6. Interested in more educ./training to move up?				
If employer paid for training	62	36	23	31
If hospital paid me for my time	28	13	23	8
I'd pay my own way	5	9	12	31
I'm at the level I want to be	3	35	38	31
More training takes too much time and $$	3	7	4	0
7. Does your employer hire and keep good workers?				
Yes	75	72	71	92
…but it's a struggle	30	24	50	25
Employer doesn't pay enough	18	11	4	0
Employees are not treated well	5	16	13	8
Not enough good workers	3	1	13	0
8. If you had to do it over, what would you do?				
Get more schooling	70	19	19	31
Same occupation	19	59	35	46
More college courses	0	2	4	8
Different occupation	5	19	37	0

Post-Secondary Student Survey

In order to assess student awareness of occupational realities and possibilities, particularly those concerning occupations identified in the Phase One report, surveys were conducted during class sessions at the South Bend campus of Ivy Tech Community College. One survey was administered to students pursuing studies in welding, and a second survey was given to students in a CNC class. The survey instrument and results follow:

Northern Indiana Workforce Investment Board
Strategic Skills Initiative
Post-Secondary Student Survey

1. What career are you planning to pursue? _____

2. How did you arrive at your choice of careers? Identify the single most important factor.
   a. Parent or guardian.
   b. Friend(s)
   c. Teacher
   d. School Guidance Counselor
   e. Media (e.g., newspaper, magazine, internet)
   f. Television show
   g. Other (please specify) _____

3. Have you ever worked in the field of your chose career?
   a. Yes b. No
   If yes, at what job or jobs? _____

4. Were you aware that there are shortages in the occupation you are studying for?
   a. Yes b. No
   If yes, how did you learn that? _____

5. Why do you think that shortage exists?

6. Why do you think people drop this class or program?
   a. Courses are too difficult.
   b. The program costs too much.
   c. The program is offered at times difficult for me to attend.
   d. The program takes too long to complete.
   e. Other reasons (please specify) _____

7. Do you think your high school education prepared you well for postsecondary education?

a. Yes b. No

If not, why not?

_____

_____

8. Do you plan to work in this area – Northern Indiana and Southern Michigan – when you complete your studies?

a. Yes b. No

If not, why not? _____

Post-Secondary Survey Results:

Survey Results for Welding Students
Surveys taken at Ivy Tech Community College: Dec. 7, 2005
Mary Beth Greer

1. What is your career goal?

- Promotion at work
-welding
-AAS and long term job
-Build motorcycles
-Associates Degree in HVAC
-HVAC
-Plumber/pipefitter
-millwright
-To finish my Millwright apprenticeship. Make a better life for my family.
-Millwright

2. How did you make your career decision? Select the one most important influence.

	Number	Percent
School Guidance	0	0
Teachers	0	0
Parents	1	10.0 %
Friends	2	20.0 %
WorkOne Center	1	10.0 %
Publications	1	10.0 %

Other	5	50.0 %
Total	10	100 %

Other:
-job
-me
-Have been in construction for years, tired of making no money.
-My father is a millwright, and work was looking for millwrights.
-AM General offered the apprenticeship, and I was qualified enough to get it.
-Apprenticeship program through work

3. Have you ever worked in manufacturing?

	Number	Percent
Yes	8	80.0 %
No	2	20.0 %
Total	10	100 %

If yes at what job or jobs?

-Assembly-parts
-Air Conditioning
-Making musical instruments
-Maintenance
-Factory-Machine operator
-Trailer factory, tub factory, automotive.
-Bock Products, sheet metal, Delta Plastics, then Apartment Maintenance.
-AM General 27 yrs. Assembly, inspection, repair, welder, painter, test driver.

4. Were you aware that there are shortages in the occupation you are studying for?

	Number	Percent
Yes	4	40 %
No	6	60 %
Total	10	100 %

If yes how did you learn that?

-Counselor
-My journeymen have informed me about the skilled trades are approaching retirement age and most companies aren't producing any more.
-NAFTA "No" "American" "Factories" "Taking" "Applications"

5. Why do you think that shortage exists?

-Outsourcing
-Because not enough people have training beyond on the job training
-Not getting paid enough for the work
-Skilled trades retiring and not being replaced
-Trade policies of Republican Administrations enabling big business to move overseas with lower costs and bonus

6. Why do you think people drop this class or program?

		Number	Percentage
Program of study too difficult:	Yes	0	0 %
	No	10	100.0 %
	Left Blank	0	0 %
	Total	10	100.0 %
Cost too high:	Yes	2	20.0 %
	No	7	70.0 %
	Left Blank	1	10.0 %
	Total	10	100.0 %
Length of Program too long:	Yes	0	0.0 %
	No	10	100.0 %
	Left Blank	0	0.0 %
	Total	10	100.0 %
Days and hours of classes not flexible enough:	Yes	2	20.0 %
	No	8	80.0 %
	Left Blank	0	0 %
	Total	10	100.0 %
Other:	Yes	3	30.0 %
	Left Blank	7	70.0 %
	Total	10	100.0 %

Other
-Some people just aren't able to do it.
-They don't have the skill ability

9. Do you think your high school education prepared you well for postsecondary education?

	Number	Percentage
Yes	6	60.0 %
No	4	40.0%
Total	10	100.0 %

If not, why not?

-Too easy
-Didn't go too much
-I had no idea what I wanted to be when I grew up.
-Was not prepared for Arabic Math "Algebra" Save the trees!

10. Do you plan to work in this area of Indiana when you complete your studies?

	Number	Percentage
Yes	9	90.0 %
No	1	10.0 %
Total	10	100.0 %

If not, why not, and where do you plan to go?

-Can't stand this place. I need warmth.

Survey Results for CNC Students
Surveys taken at Ivy Tech Community College: Dec. 7, 2005
Mary Beth Greer

1. What is your career goal?

- To become a line foreman. Maybe an engineer if possible.
- Quality Control Manager.
- No answer
- To be a machinist/maintenance.
- Engineering
- Mold maker
- I want to be a manufacturing Engineer.

- Tool Maker/ CNC Programmer
- Design Layout Machinist
- Training to become a CNC Programmer. Eventually I would like to be able to make custom parts for all types of vehicles.
- Become a CNC Programmer (Operator).
- Manufacturing Engineer/ Programmer.

2. How did you make your career decision? Select the one most important influence.

	Number	Percent
School Guidance	0	0
Teachers	0	0
Parents	5	41.7 %
Friends	2	16.7 %
WorkOne Center	0	0
Publications	0	0
Other	5	41.7 %
Total	12	100 %

Other:
-Apprenticeship at work
-Interest in hands on occupation
-My current job
-I have had jobs in Marshall County that closed down, and I liked the manual labor with CNC. I decided to learn how to program them. I believe that CNC is the way of the new world.

3. Have you ever worked in manufacturing?

	Number	Percent
Yes	11	91.7 %
No	1	8.3 %
Total	12	100 %

If yes at what job or jobs?

-Attco Machine as a lathe operator for 3 years. Now I am employed at Shafer Gear works doing lathe work (some hob a shaving and milling too) for almost 3 years now.
-Quality Tech, Fork lift driver, Machine Sort, Shipping and Handling
-Tool and Die Maker, Injection Mold Maker
-production
-Die Mold making
-Machinist-mold repairer

-I am currently doing CNC set up technician job at Hayes Lemmerz International at Bristol Indiana
-apprentice as a tool maker-CNC operator
-machinist work
-Weld maintenance, shipping and receiving, incentive press work, construction, welding towers, machine technician.
-Symmetry Medical, Fulton Industries, B&D Manufacturing, Coan Engineering

4. Were you aware that there are shortages in the occupation you are studying for?

	Number	Percent
Yes	6	50 %
No	6	50 %
Total	12	100 %

If yes how did you learn that?

-Shafer Gear goes through a lot of people who don't know to much about machining. We use a lot of temp services as well as hiring services.
-Networking
-Word of Mouth
-I already am doing that job
-From working in the trade for 3 years. Seeing CNC operators come and go that are under-qualified.
-I am from Marshall County, about 15 miles from Warsaw. CNC's are the closest pay for the job I lost.

5. Why do you think that shortage exists?

-I feel that there should be more of a wet wage limits between shops and within your area of expertise. Long hours with some benefits aren't appealing either.
-Low pay, Low interest in job, workers lack of Quality in job.
-Lack of interest, also the length of study time needed to become a Tool and Die maker, machinist or mold maker or CNC operator programmer, and the starting pay for beginning or entry level workers deters people's interest.
-Because of the length of time required to be qualified in this career. Also available classes at night. (Because most people are working.)
-Low pay and benefits-Occupation not taught as option
-Because it is not easy to learn. That job needs lots of responsibility, hard to work quickly and keep tolerance etc.
-Not enough qualified personnel.
-Trade not known about.
-CNC's are the future for manufacturing.
-Because it takes knowledge and skill in that area to be able to do CNC.
-Lack of awareness that the career even exists.

6. Why do you think people drop this class or program?

		Number	Percentage
Program of study too difficult:	Yes	7	58.3 %
	No	4	33.3 %
	Left Blank	1	8.3 %
	Total	12	100.0 %
Cost too high:	Yes	4	33.3 %
	No	6	50.0 %
	Left Blank	2	16.7 %
	Total	12	100.0 %
Length of Program too long:	Yes	3	25.0 %
	No	8	66.7 %
	Left Blank	1	8.3 %
	Total	12	100.0 %
Days and hours of classes not flexible enough:	Yes	4	33.3 %
	No	6	50.0 %
	Left Blank	2	16.7 %
	Total	12	100.0 %
Other:	Yes	3	25.0 %
	Left Blank	9	75.0 %
	Total	12	100.0 %

Other

-Long Hours at shops.
-They find they do not enjoy or like the work.
-CNC not easy to run

11. Do you think your high school education prepared you well for postsecondary education?

	Number	Percentage
Yes	9	75.0 %
No	3	25.0%
Total	12	100.0 %

If not, why not?

-They offered math but no machine type classes. I didn't take my math too serious back then either.
-Manufacturing no longer subject in school.
-They did not focus on what college would be like or what you would have to do to succeed.

12. Do you plan to work in this area of Indiana when you complete your studies?

	Number	Percentage
Yes	10	83.3 %
No	1	8.3 %
Undecided	1	8.3 %
Total	12	100.0 %

If not, why not, and where do you plan to go?

-I hate Indiana and I plan to move back to Colorado.
-It all depends on benefits and money. I already have companies in other states looking at my resume.

Post-Secondary Institutional Surveys and Results

In order to establish institutional capacity for training programs in the occupations targeted in the Phase One report, surveys were distributed, via email, to program directors in regional institutions. For advanced manufacturing, the programs in which we were interested included those in welding and CNC operation. It was not possible to administer surveys for the other two occupations in this sector, supervisor and transportation equipment painter, because there are no programs in EGR2.

In the Health Care sector, surveys were sent to regional nursing programs, as well as to the regional schools offering degrees or certificates in Medical Assisting and Health Information Technologist/Coder. No funded programs exist locally for Respiratory Therapists, so no survey could be administered. The following charts and documents are the raw responses from the programs surveyed:

Welding and CNC Operators:

Welding and CNC Operator Training Information
Elkhart Area Career Center data

Course		Enrolled	9th	10th	11th	12th	1st Yr Seniors	2nd Yr Comp	Total Completors
Machine Trades	2001-2002	32			14	18	unk	unk	13
	2002-2003	33	1	1	16	15	unk	unk	11
	2003-2004	40			20	20	2	13	15
	2004-2005	40			18	22	7	12	19
Welding	2001-2002	27		1	19	7	unk	unk	6
	2002-2003	30	1	3	13	13	unk	unk	8
	2003-2004	38			21	17	2	6	8
	2004-2005	45			21	24	6	11	17

Ivy Tech Community College data South Bend, Elkhart and Warsaw campuses

AAS in Welding	last 3 years	avg. 75	94%

(6% of students do not complete course of studies, 5.2% because they have found a job.)

AAS in CNC Op.	last 3 years	45	unknown *

* both programs have converted from certification to AAS degree, and current enrollments, of about 15 per program, represent start-up figures.

Ivy Tech Community College also conducts courses in the field, at the request of manufacturers, but program data are not known.

EGR2 Nursing Program Data

Institution	County	Contact	Phone #	Current Enrollment	Avg. Incoming Class	Graduates prev.5-yr avg	Percent Completing	Percent work in EGR2	Reasons don't finish program	Retention Strategies
Ancilla College	Marshall	Ann Fitzgerald	574-936-8898 x379	75	40	1st yr… 30	unknown	prob. 95%	Lack of home support Need too much remediation	Heavy remediation Advice about need for home suport
Bethel College	St. Joseph	Dr. Ruth Davidhizar	574-257-2594	300	135	55	80%	BSN 50% Assoc 80%	Too much outside work Some financial constraints	Aggressive remediation Scholarships
Goshen College	Elkhart	Vicky Kirkton	574-535-7376	75	20	19	?	?	?	?
(*did not respond - data is from Peterson's Guide to Nursing Programs*)										
Indiana University S.B.	St. Joseph	Dr. Mary Jo Regan-Kubinski,	574-520-4571 52		60	50	90%	>90%	Weak in math and science Need income, so work too much Emotional or family issues	Extensive advising Remediation "Learning Contracts"
Ivy Tech Comm College	St. Joseph	Carol Kirkner	574-289-7001 x5354	110	70	45	99%	90%+	Financial constraints Some courses too hard	Counseling, tutoring On-line practice exams
St. Mary's College	St. Joseph	Dr. Linda Zoeller	574-284-4680	161	45	17	93%	50%	Medical Problems Personal Issues Family Demands	1:1 faculty-student ratio, college support

		2005-06 Tuition and fees	2005-06 Room/Board		$/credit hr.
Ancilla College	Marshall	fees - $215	N/A – commuter		$320
Bethel College	St. Joe	$21,190	$6,800		$300
Goshen College	Elkhart				
Indiana University S.B.	St. Joe		N/A - commuter only	ungrd res	152.75
				non-resid	400.05
				ungrd res, nursing	210.05
				non-resid, nursing	606.00
Ivy Tech Comm Coll	St. Joe			resident	83.95
	Marshall			non-resid	170.25

Medical Assistant Institutional Data

Ivy Tech Community College
Medical Assisting AAS
Medical Assisting Tech Certificate

(ASN Info)
1. Program capacity:110

2. Current enrollment:107

3. Average number of applicants: 500 – 600 for Traditional;
150 – 200 for Transition

4. Average incoming class: 50/20

5. Average graduating class: 35/15

6. Proportion of students that finish on time: 95%

7. Proportion of students that don't finish: <1%

8. Reasons given for not finishing: academic failure, insufficient funds, need to work more, family responsibilities

9. Does the program have a waiting list, and if so, how many name are currently on the list? We do not use a wait list. If students are not admitted at the appropriate time, all names go "back into the hat" and everyone is looked at again for the next admission.

Brown Mackie College
Medical Assistant Certificate
Medical Assisting AS

1) Program capacity:
   a. AS 32
   b. Certificate 32

2) Current enrollment:
   a. AS 160
   b. Certificate 11

3) Average incoming class:
   a. AS 20
   b. Certificate 4

4) Average graduation class size for the past 5 years:
   a. AS 35
   b. Certificate 15

5) Proportion of students who finish on time:
   a. AS 70%
   b. Certificate 77%

6) Proportion of students who do not finish:
   a. AS 30%
   b. Certificate 23 %

7) Reasons for dropping:
   Transfer to another program, personal issues, child care, transportation, financial difficulties

8) Do incoming students need remediation? Yes, based on initial ASSET scores

9) Do you have a waiting list, and if so, how many names are on the list? No

Coder Institutional Data

Davenport University
Health Information Technology-AAS
Medical Coding-Diploma

Programs officially began on the South Bend Campus in Winter '05. Students have had access to the program on line since 2003. While this report was prepared using the primary major code, there are estimated to be 15-20 additional students in these programs as a secondary major.

1. Program capacity:
   a. AAS Unlimited at current time
   b. Coding Unlimited at current time

2. Current enrollment:
   a. AAS 6 students
   b. Coding 14 students

3. Percentage of incoming students who need remedial class(es)?
   a. AAS 100% (1 of 1)
   b. Coding 100% (2 of 2)

4. Average incoming class:
    a. AAS Too new to establish an average
    b. Coding Too new to establish an average

5. Average graduating?
    a. AAS Program started on campus Fall 2005
    b. Coding 1 in May 2005 – student completed through on line program

6. Proportion of students that finish on time:
    a. AAS TBD
    b. Coding TBD

7. Proportion of students that do not finish:
    a. AAS TBD
    b. Coding TBD

8. Reasons given for not finishing:

N/A

9. Do you have a waiting list, and if so, how many names are currently on the list?
    No waiting list at present

Secondary Institutional and Secondary Student Data

In order to assess pipeline issues on the secondary level, various websites, school corporations, and individual high schools were contacted for the purpose of gathering data. In addition, a survey was administered to 130 high school students, selected at random, concerning their awareness and knowledge of manufacturing and health care occupations, especially those targeted in the Phase One report. The following material presents the results of these investigations:

Northern Indiana Workforce Investment Board
Strategic Skills Initiative
Phase 2 - Root Causes Report

county codes: 20 Elkhart 25 Fulton 43 Kosciusko 50 Marshall 71 St. Joseph

Secondary Institution Data - EGR2

IN code	School Name	Co. code	school year 2003-2004 enrollment	graduates	dropouts	expulsions	out-of-schoo suspensions	Post-Graduation Intended Outcomes # of students 4-yr coll.	2-yr coll	voc-tech
7505	Adams H.S., S. Bend	71	1591	266	9	9	518	142	53	11
5937	Argon Comm Sr. H.S.	50	338	50	7	1	28	22	7	10
5941	Bremen Senion H.S.	50	450	93	4	1	14	67	7	6
7421	Clay H.S., S. Bend	71	1631	292	9	12	968	197	25	21
1715	Concord Comm. H.S.	20	1452	259	62	45	299	171	16	32
5215	Culver Comm. H.S.	50	302	50	15	3	26	17	20	6
1749	Elkhart Central H.S.	20	1837	236	79	73	593	140	53	9
1750	Elkhart Memorial H.S.	20	1892	282	91	72	477	144	40	26
1613	Fairfield H.S.	20	914	95	9	7	48	49	1	2
1821	Goshen H.S.	20	1643	245	66	11	120	165	37	18
1701	Jimtown H.S.	20	512	96	15	4	47	53	8	7
7453	John Glenn H.S.	71	564	110	9	3	72	54	14	7
7400	LaVille H.S.	71	674	69	20	3	16	41	17	2
7461	Mishawaka H.S.	71	1554	279	94	54	599	154	37	15
1733	Northridge H.S.	20	1104	233	26	27	70	150	38	6
1737	Northwood H.S.	20	799	141	26	4	88	82	6	5
7353	Penn H.S.	71	2988	586	122	39	485	398	102	26
5945	Plymouth H.S.	50	989	209	45	11	27	103	23	12
7513	Riley H.S., S.Bend	71	1568	257	23	14	511	132	19	23
2173	RochesterH.S.	25	552	109	16	20	69	64	13	11
3602	Tippecanoe Valley H.S.	43	647	138	1	4	41	70	26	16
5923	Triton H.S.	50	509	53	8	3	16	23	3	3
3647	Warsaw H.S.	43	1768	345	43	44	241	239	18	35
7517	Washington H.S., S.Bend	71	1504	162	10	16	771	73	61	7
3639	Wawasee H.S.	43	1087	205	65	29	110	113	32	14
9191	Whitko H.S.	43	601	113	38	19	25	49	14	24

www.doe.state.in.us

H.S. Graduates' Higher Education Intent – EGR2, 2004

County	# grads	# 4-yr coll	% 4-yr coll	# 2-yr coll	% 2-yr coll	# voc-tech	% voc-tec
Fulton	174	85	48.85	26	14.94	15	8.6
Marshall	521	286	54.89	57	10.94	36	6.91
Kosciusko	853	525	61.55	101	11.84	71	8.32
Elkhart	1663	971	58.40	193	11.61	79	4.75
St. Joseph	2277	1342	58.94	222	9.75	176	7.73

Source: www.doe.state.in.us

Northern Indiana Workforce Investment Board
Strategic Skills Initiative

Percent of Education Delivered Through Vocational Education - by School Corporation

School Corp	acad. Yr. 2003-2004 % voc ed
Argos	4.60%
Baugo (Jimtown)	3.6
Bremen	3.8
Caston	6.9
Concord	3.2
Culver	2.2
Elkhart	3.9
Fairfield	3.6
Goshen	2.6
John Glenn	4.7
Middlebury (Northridge)	2.5
Penn	2.3
Plymouth	5.1
Rochester	2.4
Mishawaka	4.7
South Bend	2.3
Tippecanoe Valley	6.4
Triton	4
Union-North (LaVille)	4
Wa-Nee (North Wood)	4.6
Warsaw	5
Wawasee	3.3
Whitko	5

www.asap.state.in.us

Northern Indiana Workforce Investment Board
Strategic Skills Initiative
High School Dropouts, by County - EGR2
School year 2003-04

County	Number	% HS students
Fulton	21	1.65
Marshall	83	2.37
Kosciusko	162	2.51
Elkhart	389	2.55
St. Joseph	579	3.0

Source: www.doe.state.in.us/

School Corporation Responses to Inquiries about Vocational Courses Offered

Several regional school corporations were sent email surveys designed to elicit information about vocational-technical courses offered in the high schools in the region. In terms of pipeline considerations, one may suspect that the more students are exposes to skills relevant to manufacturing occupations, the more students would opt for those kinds of careers. The following are the responses we received to our inquiries:

Rochester Community High School: (source: Dr. Debra Howe, superintendent)

1. Vocational education classes:
Family and Consumer Science: Adult Roles and Responsibilities, Nutrition and Wellness, Advanced Nutrition and Wellness, Child Dev and Parenting I, Advanced Child Development and Parenting, Human Dev and Family Wellness, Interpersonal Relationships, Housing and Interiors, Textiles and Fashion Technologies, and Interdisciplinary Cooperative Education (ICE).

Agriculture: Advanced Life Sciences, Agribusiness Management, Ag. Construction, Food Science, Fundamentals of Ag Science and Business, Horticulture Science, Landscape Management, Natural Resource Management, Plant and Soil Science, Small Engines, Supervised Ag Experience (SAE), Welding

Career Center: Building Trades, Cosmetology, Certified Nursing Assistant, Early Childhood Education (Beg and Adv), CISCO, Programming and Software Development (Beg and Adv), Digital Webpage Design (Beg and Adv), Radio Broadcasting (Beg and Adv), TV Production (Beg and Adv), Welding Technology (Beg and Adv), Machine Trades Tech (Beg and Adv), Computer Install and Repair, Auto Service Tech (Beg and Adv), Collision Repair (Beg and Adv).

2. Active listening/Other Life Skills: Adult Roles and Responsibilities, Lifeskills class (for our EH kids), Peer Helpers (not a class but an extra-curricular)

3. Career Days - last time was in February 2005 Many
professionals that included both healthcare and manufacturing visited.
We also encourage students to take a job-shadowing day at least once per semester (this is an excused absence) during junior and senior years.

4. Co-op Programs: ICE for seniors

5. We do not have ready access to the information on drop outs and so when we get it, we will forward it to you:
2004-2005 -

2003-2004
2002-2003
2001-2002
Enrollment rates as follows:

2004-2005 - 570
2003-2004 - 552
2002-2003 - 527
2001-2002 - 543

Plymouth Community School Corp.

Voc Ed Classes:

- Building Trades
- Health Careers
- Cosmetology
- Computer Repair
- Computer Networking
- Business Lab
- Family and Consumer Sciences
- Childcare
- Auto Repair
- Agriculture
- Interdisciplinary Coop Ed

Yes:

- Provides a course that covers active listening and other life skills
- Has career days that include visits from nursing/healthcare and manufacturing
- Has co-op programs with local businesses

Year	Enrollment	Dropout rate
2004-2005	993	17.4%
2003-2004	989	17.4%
2002-2003	963	6.7%
2001-2002	1024	3.0%

Wawasee Community School Corp

Voc Ed Classes

- Auto Mech I
- Auto Mech II
- Auto Service Tech
- Building Trades I
- Building Trades II
- Cosmetology I
- Cosmetology II
- Graphic Imaging I
- Graphic Imaging II
- Health Care Systems
- EMT
- Welding I
- Welding II
- Machine Tool I
- Machine Tool II
- Intro to Design Engineering
- Ag and FACS one hour classes

Yes:

- Provides active listening and other life skills classes
- Has career days (includes nursing/health care and manufacturing) 2 per year
- Has co-op programs with local businesses

Year	Enrollment	Dropped out from block classes
2004-2005	1009	No Data
2003-2004	No Data	5
2002-2003	731	12
2001-2002	755	8

As one may observe, even from this limited sample of results, the courses included in different schools' vocational-technical curriculum are quite varied, and many are not relevant to manufacturing at all.

Secondary School Student Survey

Northern Indiana Workforce Investment Board
Strategic Skills Initiative
Secondary School Student Survey

1. What occupation do you want to go into? _____

2. How did you make your career decision? Choose the most important influence.
   a. Don't have any career goal yet.
   b. Parent or guardian
   c. Friend(s)
   d. School guidance counselor
   e. Teacher
   f. School presentation
   g. Media, like newspaper or magazine articles
   h. Television show
   j. Other (please specify) _____

3. Do you plan to get more education or training after high school?
   a. Yes b. No
   If yes, where? (e.g. college, technical school, vocational program) _____

---

4. Select the single statement among the following that best describes your perception of manufacturing:
   a. I intend to work at a manufacturing job.
   b. I would consider working at a manufacturing job if it paid enough.
   c. I would think about working at a manufacturing job, but only if the job was really interesting.
   d. There are some jobs in manufacturing that I would like to get more information about, and I might pursue that kind of work.
   e. I would not work in manufacturing regardless of the pay or circumstances.

5. How important is each of the following to your personal job satisfaction? Rate each of them, in order of importance to you. Use numbers 1-10, and use each number only once.
   __ a. Money
   __ b. Benefits, such as insurance
   __ c. Having good co-workers
   __ d. Having a good supervisor
   __ e. Security, having little chance of getting laid off
   __ f. Interesting and challenging work
   __ g. Having a flexible work schedule
   __ h. Having a sense of independence, able to make some decisions myself
   __ j. Knowing that what I do makes a difference
   __ k. Other _____

6. Do you plan to work in this general area – Northern Indiana or Southern Michigan – after you finish your education or training?
   a. Yes b. No
   If not, why not? _____

Results of Secondary School Student Survey

Profession	How Decided	More Education	Manuf. Perception	Job Sat.	Stay Local
Nursing	J-self	Yes-College	B - if enough $	e,b,f,g,d,c,a,h,k	Yes
Nursing	F- school present	Yes-College	E - never!	c,d,b,a,f,h,g,j	No
Nursing	B- parent	Yes-College	E	d,g,h,a,f,b,e,j,c	No
Nursing	A –don't know	Yes-College	B	b,e,a,h,c,g,d,f	Yes
Nursing	B	Yes-College	D - Maybe..	f,e,b,c,a,g,j,h,k	No
Nursing	B	Yes-College	E	j,f,h,c,g,db,a,e,	Yes
Nursing	J-self	Yes-College	D	a,d,c,h,g,b,e,f	Yes
Nursing	J-sibling	Yes-College	E	j,I,h,g,d,c,f,e,a,b	Yes
Nursing	H- TV show	Yes-College	B	g,j,I,h,c,d,b,e,f,a	No
Nursing	B	Yes-Ball St	E	j,a,f,c,e,d,g,b	No
Physical Therapist	J-family needs	Yes-College	E	j,e,f,b,I,c,g,h,d	No
Radiologist	B	Yes-College	C-if interesting work	j,e,b,d,g,a,f,c,h,	Yes
Therapist	C- friends	Yes-College	D	d,f,e,g,h,c,b,a	Yes
Mech. Engineer	B	Yes-College	B	e,b,a,f,g,c,d,j,h	Yes
Mech. Engineer	B	Yes-College	B	e,a,h,b,g,c,d,j	No
Mech. Engineer	J-like electronics	Yes-Tech School	B	b,a,f,e,d,h,j	No
Engineer	J-like electronics	Yes-Purdue or N.D.	B	a,g,b,e,h,j,f,d,c	Yes
CAD Operator	D- guidance coun, and J - brother	Yes-Vocational	C	a,b,d,e,c,g,f,h,j,k	No
Aero Engineering	B,E-inner fire	Yes-College	B	K,,j,h,g,d,f,e,b,a,c	Maybe
Manufacturing	C	Yes-Trade School	B	a,g,e,b,c,f,d,j	Yes
Tool and Dye Injector	C	Yes-College	A - I intend to	e,a,b,d,c,g,h,j,f	Yes

1st place - 3 way tie:	money
	benefits
	security
2nd place - tie:	interesting
	make a difference
3rd place - tie	good super independenc

Miscellaneous Tables and Charts

Northern Indiana Workforce Investment Board
Strategic Skills Initiative
Mean Annual Wage, by SOC

SOC	Title:	EGR2 mean	Ind. Mean	U.S. mean
51-4121	Welders	$29,624	$32,020	$32,220
51-1011	Supervisors, First Line	45,981	47,210	48,290
51-9122	Painters, Trans. Equip.	28,555	31,680	37,590
51-4011	CNC Machine Ops*	34,364	32,090	31,830
31-9092	Medical Assistants	23,383	25,550	25,860
29-1111	Registered Nurses	47,883	49,100	55,680
29-1126	Respiratory Therapist	41,330	42,600	45,310
29-2071	Health Records Tech	23,533	26,120	28,160

*CNC Operator is the only wage in EGR2 greater than the Indiana and National averages, and this is because of the competition for workers in Kosciusko County, where there are only minimal, in-house training programs.

Source: www.bls.gov
http://www.stats.indiana.edu/ssi/reg_page.asp?reg=2

Charts Comparing EGR2 MSAs (South Bend/Mishawaka, Elkhart/Goshen) With Selected Communities:

The following charts have been generated from data gathered during this Root Cause project. Our intent was to select a number of communities similar to those of EGR2 in terms of population and demographics, and then compare those communities on a number of variables. Altogether, a series of more than 40 variables have been researched; only a few are presented here. This material is intended to demonstrate graphically the contention of the Executive Summary of the Phase Two Report, namely that EGR2 is in a somewhat precarious position relative to other communities throughout the nation. Our economy continues to thrive, but in sectors that are declining elsewhere. These data suggest the dimensions in which EGR2 is beginning to lag, and as an aggregate they present a warning sign that regional changes are needed to prevent EGR2 from dropping to the levels of national trends in those sectors upon which the regional economy depends. The solution to these trends seems to be to enhance the traditional skills of the incumbent workforce, while at the same time preparing elements of that workforce to participate in emergent industries.

Personal Income

	Per Capita Personal Income	Share of U.S. Per Capita Income	Estimated median Family Income
	2003	**2003**	
Reno, NV *	$38,155	121.20%	$62,100
Madison, WI	$35,471	112.70%	$71,100
Des Moines, Iowa	$33,639	106.80%	$63,900
Sioux Falls, SD	$33,217	105.50%	$59,100
Lexington, KY *	$32,118	102%	$56,200
Fargo, ND	$30,804	97.80%	$60,100
Green Bay, WI	$30,697	97.50%	$61,500
Huntsville, AL	$30,591	97.20%	$59,700
Boise, ID	$29,562	93.90%	$53,600
South Bend, IN *	$29,360	93.20%	$56,300
Elkhart, IN *	$29,315	93.10%	$56,600 *
Grand Rapids, MI *	$29,188	92.70%	$60,900 *
Knoxville, TN	$29,124	92.50%	$49,300
Charleston, SC *	$27,797	88.30%	$55,900*
Greenville, SC	$27,743	88.10%	$54,900 *
Benton Harbor, MI *	$27,572	87.60%	$52,100
Spokane, WA	$27,218	86.40%	$54,600
Springfield, MO	$26,209	83.20%	$49,400

* designates MSA

www.ffiec.gov/hmda/pdf/msa03inc.pdf
www.bea.doc.gov/bea/newsrel/MPINewsRelease.htm

Wealth Creation

City	Wealth Creation (GMP in U.S., Billions 2002)	Per Capita investment Income			Home Appreciation
		2001	2002	2003	2003
Grand Rapids, MI *	45	3,276,477	2,880,735	2,803,075	2.78
Knoxville, TN	23.5	2,836,290	2,836,492	2,772,020	4.65
Des Moines, Iowa	20	2,582,128	2,424,776	2,376,949	2.63
Madison, WI	19.8	3,368,282	3,224,681	3,163,325	3.26
Lexington, KY *	17.4	2,257,081	2,303,403	2,275,224	3.99
Spokane, WA	17	2,047,880	2,080,588	2,034,669	2.76
Charleston, SC *	16.3	2,539,878	2,495,612	2,439,862	4.05
Reno, NV *	15.8	3,558,495	3,653,783	3,782,062	7.12
Boise, ID	15.4	2,494,679	2,796,440	2,770,314	3.44
Huntsville, AL	11.8	1,735,728	1,796,976	1,775,856	4.12
Springfield, MO	11.4	1,704,504	1,773,911	1,744,442	2.37
Green Bay, WI	10.7	1,583,333	1,549,986	1,517,218	3.22
Elkhart, IN *	9.1	831,348	813,613	795,518	3.16
South Bend, IN *	8.6	1,552,311	1,599,557	1,569,008	2.24
Sioux Falls, SD	8	1,114,778	1,159,631	1,143,999	1.86
Fargo, ND	6.3	905,251	980,791	979,464	5.12
Benton Harbor, MI *	5.1				4.93%
Greenville, SC	4.6	2,550,908	2,567,770	2,521,315	3.72

*** designates MSA**

www.usmayors.org/metroeconomies/0703/metroecon_appendix_0703.pdf

www.bea.doc.gov/bea/regional/reis/default.cfm#a

www.mortgagebankers.com/industry/reports/03/ofheo_0902.pdf

Educated Labor

City	Labor Force Education 2000 *	B.A. degree granted per population age 18 – 24 (State)			Educated labor income bonus (State)	
		1990	1995	2000	1994	2004
Madison, WI	48.2%	50.5%	55.5%	52.8%	7%	7%
Charleston, SC	37.5%	32.5%	38.7%	40.5%	9%	7%
Huntsville, AL	36.1%	38.5%	44.8%	48.2%	6%	9%
Lexington, KY	35.6%	30.6%	36.3%	38.9%	7%	10%
Fargo, ND	34.4%	61.9%	67.1%	66.7%	6%	5%
Greenville, SC	34.2%	32.5%	38.7%	40.5%	9%	7%
Boise, ID	33.6%	32.3%	33.5%	33.9%	6%	7%
Sioux Falls, SD	27.8%	55.2%	60.8%	61.3%	5%	6%
Spokane, WA	25.4%	37.5%	43.5%	42.8%	7%	10%
Reno, NV	25.0%	18.8%	26.2%	22.6%	6%	7%
Knoxville, TN	24.6%	33.3%	39.7%	41.6%	6%	8%
Grand Rapids, MI	23.8%	42.2%	47.4%	48.7%	9%	11%
Springfield, MO	23.0%	47.6%	55.9%	55.9%	8%	7%
Des Moines, Iowa	21.8%	56.8%	63.8%	62.7%	7%	6%
South Bend, IN	20.3%	45.7%	51.9%	52.0%	5%	9%
Green Bay, WI	19.3%	50.5%	55.5%	52.8%	7%	7%
Elkhart, IN	13.4%	45.7%	51.9%	52.0%	5%	9%
Benton Harbor, MI	4.3%	42.2%	47.4%	48.7%	9%	11%

*Share of the labor force aged 25 years and over with a bachelor's degree
http://www.census.gov/

bachelor's degree per 1000 18-24 year olds by state
http://www.nsf.gov/statistics/seind04/c8/c8.cfm?opt=2

http://measuringup.highereducation.org/stateprofilenet.cfm?myYear=2004&stateName=Indiana

Public School Performance

City	Reading proficiency (%)	Math proficiency (%)	Students per teacher	Enrollment	Economically disadvantage enrollment %
Fargo, ND	na	na	16.2	8319	18.2
Boise, ID	na	Na	17.9	26211	31.5
Reno, NV	na	na	15.9	62103	31.7
Des Moines, Iowa	na	na	14	13740	32.5
Knoxville, TN	81.2	81.7	14.9	52659	na
Green Bay, WI	84	79	15	9399	21.1
Huntsville, AL	81	76	15.4	19807	32.9
Madison, WI	79.3	72.5		24913	35.6
Sioux Falls, SD	76.9	68.4	16.2	20053	27.7
Elkhart, IN	65.4	66.5	17.6	6425	36
Grand Rapids, MI	73.6	65.8	17.3	8109	35.5
South Bend, IN	50.8	53	16.3	21852	61.7
Spokane, WA	71.3	50.7	17.8	7833	30.2
Lexington, KY	58.3	48.1	12.8	32480	35.2
Benton Harbor, MI	56	38.1	17.5	4899	86.8
Charleston, SC	36.6	34.9	14.3	44109	52.3
Greenville, SC	36.5	33.5	na	64245	37
Springfield, MO	39	31.4	16.7	24285	38.5

Public school performance
http://www.schoolmatters.com/

Government Cost and Performance

City	Grading the States 2005				
	Overall	Money	People	Infrastructure	Information
Charleston, SC	B	B+	A-	C+	B
Des Moines, Iowa	B	B+	B	B	B
Greenville, SC	B	B+	A-	C+	B
Springfield, MO	B	B	B-	B-	A-
Boise, ID	B-	B+	B	C+	C+
Fargo, ND	B-	B-	B-	B-	C
Green Bay, WI	B-	B-	B	C	B-
Madison, WI	B-	B-	B	C	B-
Reno, NV	B-	C+	C+	B+	B-
Sioux Falls, SD	B-	B+	B-	B	D
Benton Harbor, MI	B+	B	B	B+	B+
Grand Rapids, MI	B+	B	B	B+	B+
Lexington, KY	B+	B+	B	B+	B
Spokane, WA	B+	A-	B+	B	A-
Huntsville, AL	C-	C	C+	D	C
Elkhart, IN	C+	C	C	B-	C
Knoxville, TN	C+	B-	C-	B-	C+
South Bend, IN	C+	C	C	B-	C

http://results.gpponline.org/Documents/DOCTYPE_STATESUMSIDEBAR_127_1_0_2.pdf

Economic Growth

City	per Capita Income Growth (2001 - 2003)	Real Output Growth Rate (projected for 2000- 2006)
Reno, NV	1.17	3.8
Boise, ID	0.95	3.7
Knoxville, TN	3.05	3.1
Charleston, SC	3.06	2.9
Greenville, SC	1.63	2.9
Lexington, KY	2.74	2.8
Sioux Falls, SD	3.25	2.8
Madison, WI	2.55	2.7
Fargo, ND	4.88	2.3
Grand Rapids, MI	0.76	2.3
Green Bay, WI	2.40	2.2
Huntsville, AL	4.23	2.2
Des Moines, Iowa	2.09	2.0
Spokane, WA	1.92	2.0
Springfield, MO	2.52	2.0
South Bend, IN	3.58	1.9
Elkhart, IN	5.53	1.6
Benton Harbor, MI	1.72	1.5

Real Output Growth Rate
http://www.usmayors.org/71stWinterMeeting/metroreportcharts_012203.pdf

per capita income growth
http://www.bea.doc.gov/bea/newsrelarchive/2005/mpi0405.htm

Productivity

City	Worker productivity 2003	Labor force productivity
Elkhart, IN	83008.36	94955.12
Reno, NV	82656	83500.16
Spokane, WA	94235.1	83053.81
Sioux Falls, SD	75401.54	78527.83
Des Moines, Iowa	74905.87	76300.42
Green Bay, WI	77379.95	75140.35
Lexington, KY	73766.79	74187.96
Madison, WI	73906.47	70799.62
Grand Rapids, MI	80520.19	69066.47
Huntsville, AL	68979.96	68863.34
Knoxville, TN	74757.96	67166.32
Springfield, MO	71826.56	65850.01
Benton Harbor, MI	84131.44	65552.27
Greenville, SC	70716.26	64293.3
South Bend, IN	71125.54	64211.3
Boise, ID	68718.73	62833.73
Charleston, SC	67860.19	57541.01
Fargo, ND	55579	52202

http://www.usmayors.org/metroeconomies/1004/metroeconomiestables_1004.xls

Labor force
http://www.bls.gov/schedule/archives/metro_nr.htm

Elkhart's labor force productivity is much greater than the per worker productivity because the county has an in-migration of >14,100 workers daily. Hence the number of people employed is that much greater than the incumbent workforce.

Entrepreneurial Attractiveness

City	Hot Cities for Entrepreneurs 2005		
	Overall rank	Young company rank	Rapid growth rank
Charleston, SC	4 (mid-size city)	2	6
Green Bay, WI	5 (small city)	4	10
Huntsville, AL	7 (small city)	7	15
Grand Rapids, MI	9 (big city)	8	9
Greenville, SC	9 (mid-size city)	8	9
Madison, WI	6 (mid-size city)	11	2
Knoxville, TN	13 (mid-size city)	12	14
Springfield, MO	10 (small city)	23	8
Sioux Falls, SD	13 (small city)	27	7
Lexington, KY	30 (mid-size city)	27	30
Spokane, WA	16 (mid-size city)	31	5
Boise, ID	31 (mid-size city)	33	24
Elkhart-Goshen , IN	20 (small city)	34	16
Reno, NV	33 (mid-size city)	34	34
Des Moines, Iowa	36 (mid-size city)	35	35
Fargo, ND	46 (small city)	74	25
South Bend, IN	93 (small city)	86	104
Benton Harbor, MI	141(small city)	151	122

http://www.entrepreneur.com/bestcities/region/0,5276,498-Small,00.html

Literature Review

In addition to the articles, websites, and other publications cited in the main report, a number of sources were consulted for information and data during the preparation of the report. They include newspaper archives, both online and on microfiche, online magazines, newsletters and periodic economic reports, and other library resources. The following listing of material is not inclusive, but does indicate the extent of the research conducted:

http://www.mmsonline.com Modern Machine Shop online, an excellent source of articles about not only the present state of the industry, but also future and global trends.

http://www.cadcamforum.net A good source of news and articles about technological software, especially in terms of future developments.

http://www.aws.org The American Welding Society is working hard to improve the social image of the industry, as well as to predict trends into the future. Especially helpful is www.aws.org/research/future.html

http://www.advancedmanufacturing.com This site is a treasure trove of information about the state of American manufacturing, especially as compared with global developments – i.e. India and China. In addition, there are articles about productivity and technology.

The Robert Wood Johnson Foundation, http://www.rwjf.org has published a fairly good summary of the national nursing shortage, in which significant criticism is leveled at local government failures to manage workforce development.

www.salary.com has published some interesting articles about workforce shortages and strategies, such as tuition reimbursement, to deal with the problem.

http://www.incontext.indiana.edu produces frequent analyses of workforce issues, including regional material.

http://www.doleta.gov presents a summary of the administration's "High Growth Job Training Initiative," the parent of our efforts in the Strategic Skills program.

The Indiana Department of Workforce Development publishes periodic "Labor Market Review," which was consulted for data concerning unemployment and labor force population in 2005.

http://www.business2.com was a source of summary articles about emerging industries and workforce skill sets to meet those trends.

Deloitte Touche Tohmatsu has published a masterful portrait of current workforce shortages, "2005 Skills Gap Report – A Survey of the American Manufacturing Workforce," under the auspices of the National Association of Manufacturers.

http://www.doe.state.in.us/core40 provided a listing of current and near-term Indiana high school course requirements. Core 40 came under strong criticism during many of our focus group sessions.

Five regional newspapers were mined for data, although the most success was found at the South Bend Tribune website: http://www.southbendtribune.com This site includes archives of articles dating from 1994; NIWIB researchers searched issues from 2000-2005 for articles relevant to the Root Causes report.

Excerpts from:

"What We Know About Employer-Provided Training: A Review of Literature"

John H. Bishop, New York State School of Industrial and Labor Relations,
Cornell University, Working Paper #96-09; July, 1996
http://www.ilr.cornell.edu/depts/cahrs/PDFs/WorkingPapers/WP96-09.pdf

The impact of school-based training on wages appears to depend on who pays for it. Lowenstein and Spletzer found that such training did not raise wage rates when financed by the worker, but did raise wage rates when the employer financed it. Lengermann's analysis found that school-based training financed by one's employer raised wage rates by 8.4 percent and government financed training raised wage rates by a non-significant 12 percent. When, however, the individual paid all of its costs, it had no impact on wage rates. It would appear that, at least in the short run, **School-based training pays off in higher wages only when employers or government sponsors it, not when the worker pays for it.** This suggests that employers are more effective trainers than schools and better able to pick effective school based training programs than individual workers. Apparently the productivity benefits of the general training selected by the employer are so large that employers can afford to both pay much of its costs and to offer wage increases as well.

School based vocational training is well signaled to the labor market by diplomas and school reputations, so one would expect productivity benefits of training to accrue to the trainee in the form of less unemployment, better jobs and higher earnings. One would not expect employers to be able to recruit significantly more productive workers from such sources and not pay them for their greater productivity. This appears to be the case for the training provided by public institutions (see column 5 of Table 4). Such training helps the student get a better job, but given the job obtained it does not appear to be associated with workers being more productive than others hired for that job.

Marcie Tyre's (1990) examination of several plants in a single multi-national corporation found that the American plants took longer to start up and had flatter learning curves than plants in Italy and Germany. She attributed this in part to less development and cross-training of workers. A study of hot-roll steel facilities by Ichniowski, Shaw and Prennushi found that plants using high performance work systems had less down time and produced higher quality output. Higher levels of training were one of the components of the high performance work systems that generated these positive outcomes.

Summary: The studies reviewed above have established that traditional employer provided training raises individual productivity and wage rates. Most of the training incidents in these studies were not occasioned by modernization or a TQM reorganization. Taken altogether the economic literature on training suggests that, as

long as the company is initiating and paying for training, one can be pretty confident that most of these investments are profitable both for the worker and the firm.

American employers appear to devote less time and resources to the training of entry level blue collar, clerical and service employees than employers in Germany and Japan. In the automobile industry, for example, newly hired assembly workers receive 310 hours of training in Japan and 280 hours of training in Japanese managed plants located in the US, but only 48 hours of training at US owned plants in the US. Averaged over all auto assembly workers, annual training time is nearly three times greater in plants located in Japan and about 80 percent greater at Japanese plants located in the US. These differentials in training are one of the reasons why Japanese plants are more productive than American plants and Japanese built cars have such a reputation for quality.

Second, turnover has a powerful effect on employer decisions to provide training to employees. Employers, not workers, finance most of the training that is undertaken in U.S. firms. Employers will not invest in training unless they believe it will generate a monthly return that exceeds the sum of the monthly turnover rate (generally above 2% per month in the US and sometimes greater than 8%/mo.) and the cost of capital (which is about 1.5 percent per month or 18% per year). Monthly turnover rates are typically much larger than the cost of capital and are also more variable. If turnover is 5% per month and the cost of capital is 1.5% per month, the cash flow yield of the training investment rate of return must exceed 78 percent per year if the investment is to make economic sense. Even when turnover is a very low 2 percent per month, the required cash flow yield is still quite high: 42 percent per year.

Training thus becomes a sensible investment for an American employer only when it yields very rapid and very large returns. The amount of training employers are willing to finance is negatively related to the projected turnover rate of the trainees.

High wage American employers have historically found it easy to recruit workers who have already been trained elsewhere. They have not been forced to train their own skilled workers as employers in Germany and Japan have. The greater availability of skilled and semi-skilled workers on the outside labor market has five causes:

• Higher average unemployment rates during the postwar period than in Germany and Japan.

• Higher turnover rates and the short term character of unemployment in the U.S. means that at any given unemployment rate an American firm will receive more applications from trained and qualified workers during a month than a comparable German or Japanese firm. These applicants are not lemons as they tend to be in Japan and Germany. Since layoffs are common and are generally based on seniority in the U.S., there is less stigma to being laid off or being unemployed than there is in Japan and Germany.

• Large wage differentials between firms in the same or closely related industries allow high wage firms to raid the work force of their lower wage competitors. This strategy is available because most industrial unions have not organized their entire industry and because contract provisions are not extended to non-union firms by government edict as occurs in Germany. Wage differentials between different industries and between employers of different size are, consequently, larger in the U.S. than in Germany or Japan.

• American secondary schools, community colleges and universities began providing occupation specific training to youth and adults many decades before German and Japanese schools and colleges entered this market. The early availability of school based occupational training in the U.S. helped cause the decline of apprenticeship training.

• Licensing restrictions on who can do particular jobs are less prevalent in the U.S., so there are fewer artificial restrictions on who can be hired for a particular job. If already trained workers are not available, American employers can engage in **just-in-time training.** The result is a bias toward an undertrained workforce rather than an overtrained one. German and Japanese training practices evolved in an era of tight labor markets. Older workers who had been laid off by other employers were too few and were viewed as lemons, so firms sought talented trainees in graduating classes of local schools. American training institutions developed in a very different environment--relatively high unemployment, high turnover, large immigration flows, large numbers of graduates from school based occupational training programs and a free and highly flexible labor market.

Studies by Mincer and Higuchi (1988), Bartel and Sicherman (1993) and Tan et al (1991) have found that workers in industries experiencing high rates of technological progress receive more training than workers in industries with low rates of technological progress. This finding is consistent with a view that heavy investments in training cause increases in productivity, but it is also consistent with a view that causation also runs in the opposite direction--high rates of investment and technological progress increase the demand for and the profitability of training. Because the U.S. had such a large productivity lead at the end of the Second World War, American productivity growth in the postwar period has necessarily been below that of Germany and Japan. This has no doubt contributed to the lower level of training investment in the US.

In the U.S. labor market, hiring decision makers have a very difficult time assessing the quality of the general human capital obtained from on-the-job training at previous jobs. This fact increases turnover, lowers wages, and lowers productivity. Since part of the reason for getting general training is to improve the worker's marketability with other employers, not recognizing the benefits of this training reduces the incentive to invest in general on-the-job training.

The poor quality of the information about a job candidate's general skills and the resulting under investment in general training (both on the job and in schools) is a major institutional flaw of U.S. labor markets. Some formal systems for certifying the

competencies gained through on-the-job training exist in the United States, but they have not achieved widespread usage (Wills 1993). The apprenticeship systems of Switzerland, Austria, and Germany are probably the best examples in the world of widespread and effective systems of on-the-job training and competency certification.

Governmental institutions and regulations are an important reason why American employers do a poor job of selecting entry level workers and experience very high rates of turnover. American employers are not able to obtain good information on the skills and competencies of young job applicants largely because of barriers to the free flow of information about job applicants-such as EEO testing guidelines, the failure of some high schools to send out transcripts, large variations in grading standards across schools and across courses within a school, and the threat of law suits if bad recommendations are give The worker trait that best predicts turnover is dependability and work habits (Bishop 1993). Reference checks (at both schools and former employers) are one way to assess this trait. However, the threat of lawsuits by former employees who have had difficulty finding a new job because of unfavorable references has made many employers reluctant to give honest references. Personnel offices are particularly sensitive to the legal dangers of giving references, so the information content of their references has deteriorated the most. Bishop (1993) found that most of the references given by personnel offices were misleading.

Employers believe that school performance is a good predictor of job performance and turnover[13], but they have great difficulty getting such information.

An easier way to empirically examine the issue of the under provision of training is to study whether the training market indeed behaves in the way predicted by standard OJT theory. The theory of on-the-job training says that the worker pays the full costs of general training by accepting a lower wage rate while training is underway and then reaps the full benefits in the form of a higher wage rate regardless of whether there is subsequent turnover. Is this correct: Do workers pay aII the costs of and receive all the benefits of training in skills that are useful at other firms? Do workers and employers share the costs and benefits of specific training? **If employers are paying some of the costs of general training, they are not doing it for altruistic reasons. They are comparing the training costs incurred to the expected productivity benefits the firm will receive from the workers who stay at the firm. Benefits received by other employers and by the trainee will have zero weight in their calculation. Turnover, thus, causes the firm to take only a portion of the true social benefits of general training into account and under provision results.**

Studies of who pays the costs of apprenticeship training have been conducted in Germany, Great Britain, and the United States (Noll et al 1984; Ryan 1980; Jones 1985; Weiderhold-Fritz 1985). Despite the transferable character of the training and significant turnover, these studies concluded that employers made large investments in general training that were not recovered during the apprenticeship. A welding apprenticeship program at a major U.S. shipyard was the subject of the first of these studies (Ryan 1980). The wage profile was quite flat--starting at $3.99 and topping out at $5.26 after

about two years on the job—even though the investments in general training were very considerable. Inexperienced new hires spent 36 days in vestibule training before beginning work. During the first week following vestibule training, the trainee's output net of repair requirements was less than 10 percent of an experienced worker's output. Thirty-seven weeks after being hired it reached a level of 55 percent and at 60 weeks a level of 80 percent of an experienced worker's output. Despite the fact that the local economy was in deep recession, separation rates were extremely high: 10.8 percent per month for beginners and 6.3 percent per month for those with 12 to 24 months of tenure. The shipyard accounted for about one-fifth of the welding jobs in the area. When trained welders left the shipyard, they typically found better paying welding jobs at other local employers.

NORTHERN INDIANA WORKFORCE INVESTMENT BOARD

21ST CENTURY SKILLS CONSORTIUM
STRATEGIC SKILLS INITIATIVE
MEETING MINUTES
December 20, 2005
Swan Lake Resort
Plymouth, Indiana

PRESENT: Bob Abene, Patty Baker, Steve Barkdull, Lyn Batzer, Brad Bishop, Lisa Bohner, Eric Brown, Debbie Burger, Fred Carmel, Claire Cullums, Kathy Dady, Melissa Denton, David Findlay, Beth Firestone, Mary Sue Frietag, Barkley Garrett, Pam Goward, Wendy Hatcher, Ginny Holycross, Jack Islesk, Joe Jarboe, Suzie Johnson, Greg Jones, Carl Kaser, Tom Kavanagh, Sue Kinnucan, Larry King, Andy Kostielney, Jerry Langley, Kathy LaPierre, Paul Laskowski, Julian Lewiecki, Alan Limerick, Jinny Longbrake, Sonja Matheny, Jim Mauer, Pat McMahon, Mark Melnick, Marilyn Miller, Jean Perrin, Susan Prusinski, Suzanne Randall, Deja Ream, Starre Roth, Kathy Sokolowski, Mr. Spicka, Tom Thomas, Fred Thon, Graig Toth, Donna Wagoner, Jason Welsch, Becky Wennerstrom, Cathy West, Suzanne Wheeler, Kim Wilcoxson, Darla Williams, Darla Woodward

STAFF: Kay Cochrane, Dan Hendricks, Chuck Knebl, Juan Manigault, Chuck Pressler, Sherry Szmanda, Anna Marie Peters, Lynda Kay Smith, Barbara White

I. CALL TO ORDER

Juan Manigault called the meeting to order at 8:45a.m.

Juan shared that the purpose of today's meeting was to present the Root Cause Analysis for Critical Occupational Shortages. During the meeting, staff will present the results from focus groups, employee surveys, student interviews and our analysis of the literature relevant to these worker and skills shortages.

Strategic Skills Initiative – Phase 2 – Root Causes Report

II. POWER POINT PRESENTATION – DAN HENDRICKS AND CHUCK PRESSLER

Several attendees questioned the data slides on pages 6 & 7. Juan Manigault provided an explanation.

III. QUESTIONS/COMMENTS

Kathy Sokolowski questioned where the data came from regarding the Business Churn slide. Chuck explained that it covers both advanced and traditional manufacturing and the data was received from the National Conference of Mayors.

Jean Perrin voiced her concern with not including information in the report on how employers feel that the demand to get the product off the floor does not allow workers to take time off for training during regular business hours. Jean also said soft skills are barriers for employees, e.g., getting to work on time, attendance, etc.

Chuck responded that SSI has provided fairly direct indications as to how the funds are to be spent. The state will be reluctant to address soft skills and language barriers because they are not immediately affected by SSI-types of programs.

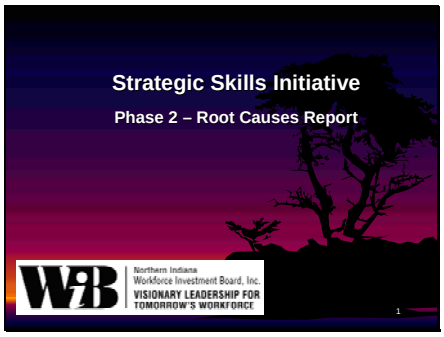
Fred Thon offered a motion to approve SSI Phase 2 – Root Causes Report; motion was seconded by Bob Abene. Motion carried.

IV. BRAINSTORM SESSION – SOLUTIONS

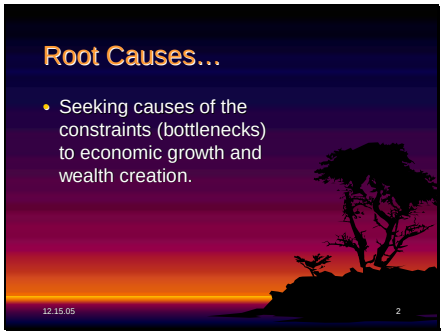
The group brainstormed on solutions to skill shortages in the following categories: Welders, CNC Operator, Supervisor, Painter, Registered Nurse, Medical Assistant, Respiratory Therapist and Coders. (Summary attached)

Meeting adjourned at approximately 10:30 A.M.

Slide 1

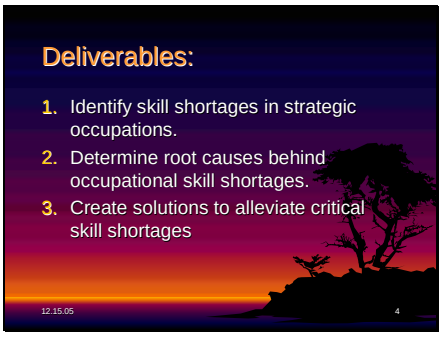


Slide 2

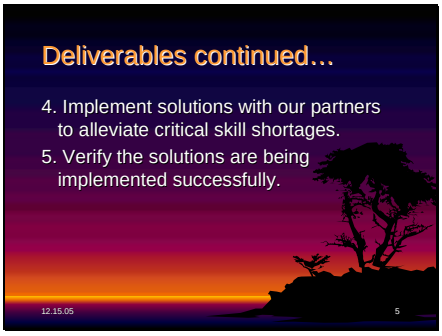


Slide 3

Slide 4



Slide 5



Slide 6

Slide 7

1st Tier Occupations Identified:

Advanced Manufacturing:

- First-Line Supervisors
- CNC Machinists/Operators
- Welders/Solderers
- Painters (Transportation Equipment)

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Slide 8

Thank you to key industries:

- Health Care:
  - Memorial Hospital
  - Kosciusko Community Hospital
  - Wood Lawn Hospital
  - Bremen Community Hospital
  - Goshen Health System
  - St Joseph Regional Medical Center
  - Elkhart General Hospital
  - Long Term Care Organizations

12.15.05 8

Slide 9

- Manufacturing:
  - Polygon
  - Plastics Solutions
  - NIBCO
  - Nyloncraft
  - Hoosier Tank & Mfg.
  - Lock Joint Tube
  - Bull Moose Tube
  - Delta Tools Mfg.
  - Daman Products Co.
  - Allied Specialty Precision
  - Curtis Products
  - General Sheet Metal Works
  - Dutchmen Mfg.
  - Phillips Products
  - Ventline
  - Textron Fastening Systems
  - Utilimaster
  - Paragon Medical
  - Master Metal Engineering

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Slide 10

- Plymouth Foundry
- Ferro Coatings Corp.
- Dexter Axle
- Indalex inc.
- Biomet
- Dalton Corp.
- AM General
- Syscon Intl.
- AE Techron
- Amerimax Laminated Products
- Zimmer
- Whitley Products
- Magnetech Industrial Services
- Federal-Mogul
- Modern Materials
- Gaerte Engines
- Qynergy

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Slide 11

Methodology

- Mining the Literature
- Root Cause Focus Groups
- Interviews
- Surveys:
  - Employee Feedback
  - Human Resources
  - Post Secondary Students
  - Secondary Students
  - Schools – H. S., technical, college

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Slide 12

How many causes do you think we found in our research?

12.15.05 12

Slide 13

Mining The Literature:

- Internet web sites.
  - Manufacturing groups.
  - Corporations.
  - News services.
  - Economic Forecasters.
  - Occupational Associations.
- Newspapers.
- Periodicals.
- Government documents.
- Industry publications.

12.15.05 13

Slide 14

Surveys:

- Employee Feedback Survey.
- Secondary Schools Data Survey.
- Secondary Schools Student Survey.
- Post-Secondary School Data Survey.
- Post-Secondary School Student Survey.
- Human Resource Director Survey.

12.15.05 14

Slide 15

Focus Group Processes:

- Brainstorm for causes.
- Affinity Diagram for grouping like causes.
- Relational Diagram for finding root cause(s) and root effect(s).

12.15.05 15

Slide 16

Our Findings

How many causes?

12.15.05 16

Slide 17

Findings - General

- Erosion of cultural values.
- Educational system issues.
- Industry failures.
- Economic barriers.
- Family pressures.

12.15.05 17

Slide 18

Drilling Down….Regional Causes

- Traditional students are not prepared for real world work experiences that require valued basic life skills, both technical skills and soft skills.
- Math skills are inadequate for today's technical manufacturing jobs.
- The cost of time, discipline, dollars and effort are not viewed as worth it to obtain technical skills needed for higher wages. Entitlement has become today's value.
- Lack of awareness by students of high wages in skilled health care and manufacturing technical occupations.

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Slide 19

Regional Causes Continued

- Guidance counselors, teachers and administrators guide students toward four year degrees even though only 25% will need or use their degree.
- Non-four-year destined students are viewed as second-class to college-bound students.
- Teachers are mandated to teach to ISTEP+ negating an emphasis on life and work ethic skills.

12.15.05 19

Slide 20

ERG2 Manufacturing Summary

- 1. Inadequate on-the-job training.
- 2. Companies must make an immediate profit today.
- 3. Secondary schools limit exposing students to technician, trades, apprenticeships, manufacturing opportunities and Junior Achievement programs.
- 4. There is a decline of voc-tech education.
- 5. Manufacturing representatives seldom visit schools.
- 6. Media bias against U. S. manufacturing.
- 7. Gender bias toward manufacturing being a male dominated culture.

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Slide 21

EGR2 Health Care Summary

- Not seen as a good profession to go into due to hours, being underappreciated and overworked with excessive stress.
- Educational opportunities not available for all those desiring to enter the health care field.
- Supply is inadequate to meet the demand due to educational issues (see specific occupation).
- Secondary schools limit exposing students to technical health care opportunities.
- Gender bias toward health care being a female dominated culture.
- Personal economic issues hinder education.

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Slide 22

Root Causes By Occupation

Manufacturing

12.15.05 22

Slide 23

Front Line Supervisors

- Specific root cause: Lack of supervisory relational skills.
- Other specific causes:
  - No training, coaching or mentoring of recently promoted or hired supervisors
  - Promoting good technical workers with no relational or communication skills.
  - Inadequate pool of qualified workers to promote that have both technical and relational/communication skills.

12.15.05 23

Slide 24

CNC Machinist/Operators

- Specific root cause: Lack of training capacity.
- Other specific causes:
  - Lack of training with measuring devices (at secondary level).
  - Inadequate math and computer skills (at secondary level).
  - Training opportunities in the field are not utilized by companies concerned with profit.

12.15.05 24

Slide 25

Welders

- Specific root cause: Lack of high school awareness of manufacturing realities.
- Other specific causes:
  - Learned about welding only because worked in factory with welders
  - Turnover – leave quickly for more money.

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Slide 26

Painters (Transportation Equipment)

- Specific root cause: Lack of skilled training program.
- Other specific cause:
  - Turnover.
  - Lack of experienced new hires.

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Slide 27

Root Causes By Occupation

Health Care

12.15.05 27

Slide 28

Registered Nurses

- Specific root cause: Inadequate funding of Nursing School faculty lines by General Assembly
- Other specific causes:
  - Lack of qualified MSN-level instructors
  - Lack of financial support for MSN-level programs
  - Faculty salaries are not competitive with hospital wages

12.15.05 28

Slide 29

Medical Assistants

- Specific root cause: Uncompetitive wages and quality of life in hospitals
- Other specific causes:
  - Faculty salaries not competitive with other establishments
  - Social devaluation of lower-level health care occupations

12.15.05 29

Slide 30

Respiratory Therapists

- Specific root cause: Lack of funded regional educational program
- Other specific causes:
  - Poor social image of work done by respiratory therapists
  - Lack of regional attractiveness to in-migrating graduates

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Slide 31

Coders – Information Technicians

- Specific root cause: Low wages for high skill expectations
- Other specific causes:
  - Inadequate training capacity at local institutions
  - Changes in certification requirements; now including 95% accuracy requirement
  - Internet. Coders can be hired by internet companies, do work online, for higher pay than can be earned locally.

12.15.05 31

Slide 32

What are employees saying?

- Manufacturing:
  - Got more career information from peers & parents than from teachers/counselors/administrators. (1)
  - Education did not prepare them for their occupation. (3)
  - Most workers would like to be better trained and expect employer assistance. (6)

12.15.05 32

Slide 33

What are employees saying?

- Health Care
  - Went into health care because of personal interest. (1)
  - Most thought they were trained adequately. (2)
  - Most want more training with employer assistance. (6)
- More health care employees than manufacturing employees are satisfied with their jobs, except for Medical Assistants.

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Slide 34

Regional Outlook

12.15.05 34

Slide 35

Warning Signs:

Shift Share

Strategic Occupational Sectors (NAICS)	National	Industry	Region
336 Transportation Equipment	4766	-8167	10333
3391 Misc. Mfg. – Medical Equip.	836	-1319	2813
332 Fabricated Metals Mfg.	800	-2419	991
326 Plastics and Rubber Products	1788	-2474	-1169
33 Machinery Manufacturing	652	-1384	107

12.15.05 35

Slide 36

Productivity

MSA	Worker Productivity
Spokane, WA	94235.1
Benton Harbor, MI	84131.44
Elkhart, IN	83008.36
Reno, NV	82656
Grand Rapids, MI	80520.19
Green Bay, WI	77379.95
Sioux Falls, SD	75401.54
Des Moines, Iowa	74905.87
Knoxville, TN	74757.96
Madison, WI	73906.47
Lexington, KY	73766.79
Springfield, MO	71826.56
South Bend, IN	71125.54
Greenville, SC	70716.26
Huntsville, AL	68879.96
Boise, ID	68718.73
Charleston, SC	67860.19
Fargo, ND	55579

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Slide 37

Competitiveness

MSA	Per Capita Income Growth (2001-2005)	Real Output Growth Rate (projected for 2005- 2006)
Reno, NV	1.17	3.8
Boise, ID	0.95	3.7
Knoxville, TN	3.05	3.1
Charleston, SC	3.06	2.9
Greenville, SC	1.63	2.9
Lexington, KY	2.74	2.8
Sioux Falls, SD	3.25	2.8
Madison, WI	2.55	2.7
Fargo, ND	4.88	2.3
Grand Rapids, MI	0.76	2.3
Green Bay, WI	2.40	2.2
Huntsville, AL	4.23	2.2
Des Moines, Iowa	2.09	2.0
Spokane, WA	1.92	2.0
Springfield, MO	2.52	2.0
South Bend, IN	3.58	1.9
Elkhart, IN	5.53	1.6
Benton Harbor, MI	1.72	1.5

Real Output Growth Rate

12.15.05 37

Slide 38

Attractiveness

MSA	Business Churn, 2001-2002
Boise, ID	28.11
Reno, NV	27.39
Springfield, MO	25.82
Charleston, SC	25.39
Spokane, WA	24.33
Huntsville, AL	23.90
Lexington, KY	23.14
Knoxville, TN	23.09
Greenville, SC	23.08
Green Bay, WI	22.58
Grand Rapids, MI	22.16
Des Moines, Iowa	21.64
Sioux Falls, SD	21.56
Madison, WI	20.95
Fargo, ND	20.51
South Bend, IN	19.87
Elkhart, IN	19.69
Benton Harbor, MI	19.40

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Wages

(Nov. 2004)

SOC	Title:	EGR2 mean	Ind. Mean	U.S. mean
51-4121	Welders	$29,624	$32,020	$32,220
51-1011	Supervisors, First Line	45,981	47,210	48,290
51-9122	Painters, Trans. Equip.	28,555	31,680	37,590
51-4011	CNC Machine Ops *	34,364	32,090	31,830
31-9092	Medical Assistants	23,383	25,550	25,860
29-1111	Registered Nurses	47,883	49,100	55,680
29-1126	Respiratory Therapist	41,330	42,600	45,310
29-2071	Health Records Tech	23,533	26,120	28,160

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Average Annual Wage 31,855 32,603 36,764

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Causes…

- Lack of investment in cutting edge technology
- Insufficient basic, technical, relational and future flexible skills training
- Inadequate lean organizational practices
- Lack of regional leadership vision

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Intermission

- 5 minutes

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