

# **SHUSWAP MANUFACTURING SKILLS GAP ANALYSIS**

## **EXECUTIVE SUMMARY & RECOMMENDATIONS**

Prepared for the Salmon Arm Economic  
Development Corporation

March 2004

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Research conducted by  
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**Canada** 

## INTRODUCTION

In September 2003, Insight Research was commissioned by the Salmon Arm Economic Development Corporation to conduct a manufacturing skills gap analysis in the Shuswap. The main purpose of the study was to provide an analysis of the human resource supply and demand in the manufacturing industry and, at the same time, obtain a clearer picture of the skill sets needed now and in the future for the workforce in the manufacturing industry. The results of the study would provide valuable labour market information and guidance not only to educational institutions but also training providers in order to aid in the design of future training courses for present and potential employees of the manufacturing sector.

The specific objectives and mandate of the research was:

1. To conduct a literature review that profiles unemployed persons in the Shuswap and the status of the manufacturing sector in BC and the Shuswap.
2. To assess the current skills sets of a sample of employees within the manufacturing companies in the Shuswap in order to determine what skills are lacking and what training is needed now and in the future in order for these employees to retain their jobs.
3. To determine the demand for specific skill sets in the manufacturing sector in the next five years by interviewing a cross section of employers in the manufacturing industry.
4. To disseminate key findings of the study publicly in the form of presentations, web site hosting and report distribution.

## **METHODOLOGY**

Both primary and secondary data collection was used for the study and the information contained in this document incorporates the findings from these two different methods. The primary data used a qualitative research design that allowed for a more in-depth exploration of the issues discussed. The primary data included in-depth interviews, focus groups, and self-administered questionnaires. At the same time, each respondent filled out a self-administered questionnaire at the beginning of the focus groups and the interviewer filled out the remaining questionnaires during the course of each in-depth interview. The results of these questionnaires are included in the report. The literature review was obtained from secondary data.

Specifically, the primary research consisted of the following:

- one focus group among employers (total of 7 employers)
- twenty-three in-depth interviews among employers at their business locations
- two focus groups among employees (total of 7 employees)
- sixty self-administered questionnaires were given to employees at a selection of manufacturing companies and asked to complete them; a total of twenty were returned.

The focus groups were one to two hours in length and the in-depth interviews ranged from thirty to sixty minutes depending on the size of the company and the issues and time the respondents had to discuss.

Respondents consisted of those individuals who were the most knowledgeable about the firm and employees within each company. In most cases this individual would be responsible for hiring personnel and would be

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either the Human Resource Manager in the larger companies or the owner in the smaller firms.

A total of 26 manufacturing companies were interviewed, representing 30% of all the manufacturers known at present in the Salmon Arm area. These 26 manufacturing companies represent a workforce of 1,274 employees with 96% being full time employees. The current database of manufacturers in the Shuswap lists 86 companies with 75% of them in non-resource or advanced manufacturing and 25% producing resource-based products.

The sample of the 26 manufacturers who were interviewed show a wide cross-section of both resource-based (7) and non-resource based (19) companies. A total of 9 manufacturing sub-sectors were researched for this study. A breakdown of the 9 sub-sectors represented in the research follows with the number of companies who were interviewed within that sub-sector:

1. Food manufacturing (1)
  2. Plastics and rubber manufacturing (4)
  3. Chemical manufacturing (1)
  4. Fabricated metal products manufacturing (4)
  5. Industrial products manufacturing (2)
  6. Transportation equipment manufacturing (4)
  7. Furniture manufacturing (1)
  8. Software manufacturing (2)
  9. Wood products manufacturing which includes sawmills, structural wood products, millwork, window and door and pre-fab wood/log buildings (7).
- ( ) indicates the number of companies interviewed

**NOTE OF CAUTION:** The results of this study are based on the opinions of 26 employers and 27 employees in the manufacturing industry in the Shuswap. Due to the qualitative nature of the study and the relatively small sample size, these results are not statistically valid and should be considered as hypotheses only.

#### **ACKNOWLEDGEMENTS**

Insight Research would like to acknowledge and thank each and every one of the employers and employees in manufacturing who participated in this project. Without their opinions and valuable input this study would not have been possible. Thanks also goes to the Salmon Arm Economic Development Corporation and the Government of Canada for their guidance and, most important of all, their contributions to the funding of this project.

## **EXECUTIVE SUMMARY OF THE MANUFACTURING INDUSTRY IN THE SHUSWAP**

- ❖ The manufacturing industry in the Shuswap is growing and is an important and vibrant contributor to the economy. In the Salmon Arm area alone there are at least 86 manufacturers with approximately three-quarters of these companies being advanced manufacturers or non-resource-based ones, and the remaining one-quarter are resource-based firms. Among the advanced manufacturers there is a real diversity of thirteen different sub-sectors represented including fabricated metal products, food and beverages, printing, plastics and rubber, machinery, computer and electronic products, and transportation equipment.
  
- ❖ According to the Statistics Canada 2001 census data, there is a total of 1,935 people working in manufacturing in the Shuswap representing 12.9% of the total labour force. Almost two-thirds of the workforce is in the trades area, specifically, machine operators, mechanics, electricians. The remaining one-third of the workforce are involved in the areas of management, business, finance, administration and sales and service.
  
- ❖ This particular project involved interviews and focus groups among 26 manufacturing firms, representing roughly one-third of all the manufacturers known at present in the Shuswap. These 26 firms employed 1,274 people and 96% of the workforce were full-time workers. The manufacturing firms researched were generally small with over three-quarters (20 out of 26 firms) employing 30 or less employees.
  
- ❖ The overall average age of the workforce researched appeared to be fairly young with the average age of 32 for the non-resource-based firms and 35 years for the resource-based companies. There appeared to be significantly more

mature (55 years and over) workers employed in the resource-based companies than in the advanced (non-resource-based) manufacturing companies.

❖ Almost two-thirds of all the employees researched for this study are well paid and earn \$20 or more per hour for their work. The 2003 BC median hourly wage rate in manufacturing is \$20 per hour and this is considered to be an above-average wage. The provincial median hourly average is \$18 per hour.

## **EXECUTIVE SUMMARY OF PRIMARY RESEARCH AMONG MANUFACTURING EMPLOYERS**

### **Main Issues Facing Manufacturers**

❖ Key issues facing manufacturers included: a) finding skilled and motivated employees; b) managing growth in the sector; c) finding more contracts and breaking into new markets; d) the rising Canadian dollar and resulting shrinking profit margins.

### **Occupations in Certified Trades in Manufacturing**

❖ Certified trades were considered key occupations within the manufacturing sub-sectors researched. Employers cited a total of 33 certified trades they hired: 12 among the resource-based firms and 21 within the non-resource-based companies.

### **Supply and Demand of Labour**

❖ An insufficient supply of qualified workers to hire was one of the main human resource challenges confronting employers in manufacturing in the Shuswap area.

- ❖ The types of jobs where employers felt the supply of labour was exceeding the demand included assemblers, computer programmers, forestry workers, general production workers and unskilled labourers for entry level type of work.
  
- ❖ In contrast, the job categories where employers felt the supply of labour was not meeting the demand included a variety of trades people such as steel fabricators, journeymen in joinery, welders, carpenters and plumbers in addition to junior design engineers, people with custom manufacturing machine experience, design program people and CAD operators, software developers and computer techs, and industrial salespeople.
  
- ❖ Most respondents agreed that the best, most motivated employees to hire were in the 30-35 year old range, married with families who knew and valued the importance of a steady income. The types of employees the employers tended to avoid were those 40-50 years old who were still looking for entry-level jobs. However, employers were receptive to hiring mature workers (55-64 years) with the skill sets required.
  
- ❖ In general, most employers felt their employees would be able to transfer their skills easily to other sub-sectors of manufacturing. Trades people in the forest industry were considered to have plentiful skills that could be transferred to other sectors. In many of the smaller firms employees tended to be cross-trained and learned a variety of jobs and acquired different skills, which they could transfer to other sub-sectors.

### **Present & Future Skill Shortages**

- ❖ One-half of all employers listed at least one or more unfilled positions within their firms and these included:
  - 22 high-level skill positions such as computer technologist, engineers, software developers and salespeople;
  - 23 moderate-level skill positions including certified journeymen and qualified trades such as millwrights, industrial electricians, and fabricators;
  - 3 entry-level skill positions such as shipper-receivers and finishers.Only 10% of the unfilled positions were among those in the resource-based companies.
  
- ❖ A great proportion of the most difficult positions to fill fell into the moderate-skill level with 60% of them being trades people such as fabricators, welders, plumbers, millwrights, and electricians and another 20% in the supervisory categories.
  
- ❖ The majority (70%) of skill shortages noted by employers in the past five years fell into the medium-level trade and skilled craftsmen/technician areas with the remaining 30% in high-level skill positions such as industrial salespeople, design program engineers, AutoCAD operators, software developers and computer technicians.
  
- ❖ Future skill shortages predicted by employers tended to be more likely in the trades area with a need for supervisors and managers in all the manufacturing sectors.
  
- ❖ There were many different reasons given for a potential shortage of trades people in the future and these included: a) high school students were not directed into trades programs b) there is a negative attitude and view of trades people which is passed on to the younger generation c) government has not

reinvested in the continuation of the Apprenticeship Program d) those employed as trades people are getting older and will be retiring soon e) waiting list for BCIT is too long f) trend in the past 10 years for high school grads is to pursue white collar jobs in the high tech industry g) there is an image that the trade jobs will be replaced by robotics h) construction industry is drawing carpenters in manufacturing away from that industry.

❖ By far the most prevalent skill lacked by present employees was in the area of work ethic and motivation and this included a range of skills such as lack of ambition, initiative and ability to take direction and criticism and a lack of self-motivation to utilize resources. Others lacked multi-tasking skills, strong math literacy skills, and soft skills such as teamwork skills, ability to deal with the public, leadership and supervisory skills.

❖ The four key skills potential employees lacked were: motivation, the right attitude, work ethic, and the combinations of experience needed for the job.

❖ Few employers administered any aptitude and personality tests for potential employees with the exception of several of the larger employers who have had excellent results from their tests.

### **The Importance of Soft Skills**

❖ The four most important (on a scale of 1 to 4 with 4 being very important) "soft skills" were deemed to be: teamwork skills (3.7 mean score), motivation skills (3.6), flexibility/adaptability (3.5) and effective communication (3.5).

❖ In general, respondents felt there was a low skill level among high school grads with an overall lack of work ethic and motivation present and for many, a lack of interest in and unwillingness to do physical labour. There was general

agreement that younger job applicants did not present themselves favourably when applying for a job. Some did not maintain eye contact or shake hands while others did not dress appropriately for the interview. Others lacked overall common sense and were absent frequently from their jobs causing problems for some employers.

### **Human Resources Issues**

- ❖ A main human resource challenge for Shuswap manufacturers involves finding qualified workers to hire. The shortage of skilled workers and trades people in general is well documented, and economies of scale further limit the efforts of a significant number of Shuswap advanced manufacturers.
- ❖ Employers must devote a significant amount of time and resources not only to finding skilled and motivated workers, but also to training and retaining good workers.
- ❖ Retention was the focus of formal or informal human resource policy for manufacturers in this study. Increased wages were cited as a retention strategy of choice.
- ❖ Recruitment for high skill level positions requires focused, long term planning by employers who rely on well established manufacturing sector contacts and far reaching networks to assist them in filling these positions.
- ❖ Moderately skilled positions and Certified Trades in particular are considered extremely difficult to recruit. Businesses begin recruiting up to a year in advance

of vacancies, sometimes through apprenticeship and college co-operative programs.

❖ Employers prefer to 'train up' existing employees for vacancies at moderate and entry skill levels. When this is not possible, 'word of mouth' advertising through current employees is the most frequently used recruitment method. Many employers recruit for moderate and entry level positions through local newspapers and use unsolicited resumes kept on file.

❖ One third of the employers in the study estimated they received less than 20 responses for posted vacancies. These postings tended to be for the moderate skill level positions. If the posting was for a Certified Trade, employers usually received less than 10 responses. In contrast, entry-level postings usually brought in over 100 resumes.

❖ Almost 80% of the employers in the study estimated only one in 10 applicants were qualified for the posted vacancy.

❖ Employers screen unsolicited resumes by first impression when the resume is dropped off, by evidence of skill and experience, and by the literacy level displayed in the resume. Basic literacy for entry-level positions has become a requirement as new technologies come in to play for manufacturers.

## **Training**

❖ Employers listed seven types of training they use. In order of frequency mentioned, they are:

- 1] On-the-job training (88%);
- 2] Training at local institutions (54%);

- 3] Apprenticeship programs (38%);
- 4] College, Secondary school, and local 'Earn and Learn" programs (35%);
- 5] In house courses (35%);
- 6] Distant training courses (30%);
- 7] Courses through private organizations and industry associations (8%).

❖ More than 50% of the respondents train almost entirely on-the-job. They were evenly split between those who felt on-the-job training was the method required and those who trained this way because they could not find skilled workers to hire.

❖ Shuswap manufacturers use local institutions for the following training, listed in order of frequency mentioned: Office computer courses, First Aid, Forklift operator, Log home building, Programmable Logic Controls (PLC) Certificate, and Computer Assisted Drafting (AutoCAD).

❖ Over one- third of the employers surveyed said they use the Apprenticeship Program. A few were satisfied with the program, but many more expressed frustration and disappointment with it. They cited problems caused by reductions in administrative staff, serious issues with Employment Insurance restrictions, and cumbersome training timetables.

❖ Barriers to training in general were identified by employers They included: lack of locally offered courses and facilities, lack of company's capacity to undertake much training, and course offerings that are too general or are out-of-date.

❖ Employers request supervisory courses offered locally for their employees. This type of course was requested more often than any other. Also frequently

mentioned were Computer Numeric Control (CNC) Machining, AutoCAD, and Math for the trades, and up-to-date sales techniques.

❖ Employers said they would be interested in attending the following courses in: business management, human resource development, automated drafting and information technology.

## **EXECUTIVE SUMMARY OF PRIMARY RESEARCH AMONG MANUFACTURING EMPLOYEES**

### **Current Issues Affecting Manufacturing**

❖ Employees concurred with the employers and noted similar issues they felt were facing the manufacturing industry:

- a) high Canadian dollar which is affecting exports to the US
- b) softwood lumber dispute affecting all those involved with the forest industry
- c) the need to find new markets
- d) finding good employees in the trades and other employees who are motivated, able to be cross-trained, and who have excellent interpersonal and teamwork skills.

### **Skills Required for their Jobs**

❖ It appeared that many of the employees interviewed were cross-trained in their jobs and were experienced in a variety of jobs within one firm. A complete listing of all the skills required for their jobs is contained in the report. Many new skills were acquired since they started their jobs and are also listed in detail in the report.

❖ It is apparent that computer skills, people skills and soft skills are important ones which employees are continually learning on-the-job in their different occupations. The most prevalent new skill requirement that employees have needed within the past few years in order to perform their jobs was computer training in a variety of areas such as PLC and CNC programming, AutoCAD drafting, web design and new ERP (database software) systems.

### **Present and Future Skill Shortages**

❖ Employees felt that trades people would be in short supply in the future due to older workers ready to retire and a general lack of young people interested in entering the trades programs. In addition to technical (plastics and rubber) salespeople, those with Information Technology skills, and PLC programming optimizers would also be in short supply.

Specific skills in short supply included: drafting, technical skills, knowledge about conducting business in the US and internationally, and knowledge about WCB regulations. Soft skills found lacking in employees were also listed and included: communication skills, motivational skills, cooperation skills, and critical thinking and problem solving skills.

### **Importance of Soft Skills**

❖ All the soft skills were deemed to be important by employees with the following four being the ones with the highest ratings based on a 4 point scale with 4 being very important: flexibility and effective communication (3.7 mean score), motivational skills (3.5 mean score), and teamwork skills (3.4 mean score).

❖ Employees concurred with many of the employers comments regarding the lack of work ethic and motivation among young workers whom they felt needed to learn how to: a) self-direct - notice what needs to get done next b) take pride in their work c) be willing to start at the bottom for basic pay and work their way up to higher positions d) respect the employers and foreman and take correction e) take an active role in their training.

❖ Skills gaps noted among high school grads included basic math skill (especially working with fractions), and ability to troubleshoot and use Grade 11 Math/Algebra to catch errors coming from AutoCAD design programs before going to production.

### **Profile of a recent High School Graduate**

❖ Employees felt that families needed to do a better job of instilling a sense of responsibility in their children to better prepare them for the many excellent opportunities waiting in manufacturing.

## **The Employee Perspective: Human Resource Issues**

### **Attracting and retaining workers**

- ❖ Employees trace their interest in the trades to their early experiences with family and friends of family. They believe more young people will be attracted if the trades are shown in a positive light with experiential school programs as early as Grade 6 but certainly before Grade 11.
- ❖ Respondents felt attracting workers to the trades can be encouraged in the schools if they would revisit past successful shop programs, provide innovative counselling, examine the Work Experience program for gaps, and continue to build partnership programs where students earn money and credits while they learn.
- ❖ More people would be attracted to entry-level jobs, according to employees, if higher wages were offered. They recognize that many workers advance to satisfying, high paying careers once their skills and motivation are recognized at entry-level jobs.
- ❖ Wage increases were mentioned as the most frequent way employers show they want to keep a worker. Other common approaches they noted to successfully retain workers were: benefit packages, paid training, profit sharing, good work communication and environment, and 'perks' where they are allowed to use shop facilities or use inventory on weekends.

### **Training**

- ❖ Employees would like their employers to offer more training on-the-job, at local institutions, and, where required, support learning at distant locations.

❖ There is frustration with the Apprenticeship Program. Specifically, employees said that in the Interior, there are not enough employers to meet the demand of applicants for Apprenticeship and that the commitment of time and money required during Apprenticeship comes at a time when most workers are developing other responsibilities.

❖ Employees requested courses in supervisory skills and communication more than any other type of course.

## RECOMMENDATIONS

### **Skill Shortages Recommendations**

From the results of this study and other studies reported on in the Literature Review there is no doubt there will be future skill shortages in the trades area in the Shuswap with a need for supervisors and managers in all the manufacturing sectors. It is important to address the misconception that there is still time before skill shortages in the trades become an issue in the Shuswap. As recently as December 2003, some attendees at a Community Engagement session organized by HRDC, Salmon Arm, held this opinion. The current study once again demonstrates that according to employers in manufacturing, trades people such as electricians, plumbers, carpenters, fabricators, machinists, millwrights, welders and RV technicians will be in short supply in the very near future.

Although there are many reasons for this upcoming shortage that are difficult to address and change--- the one that could be implemented at a local level within the Region is to try and create a greater and more positive profile of the manufacturing industry in schools. The educators could work in conjunction with employers to create attractive marketing materials that could be sent out to parents promoting careers in manufacturing.

At the same time, employers within manufacturing in the Shuswap could work together with the Salmon Arm Economic Development Corporation to develop materials that highlight the magnitude and value of the manufacturing activity in this area.

- ☞ Employers need some guidance and possibly training in some of the challenges they and their employees are facing in this industry at the present time. Finding skilled and motivated employees appear to be one of the key human resource issues facing employers.

It is recommended that a short workshop be designed to teach employers ways to screen applicants by using tests in order to find the skill level and the important work ethic and motivational skills they need in employees -- especially among the younger workers and recent high school graduates. The few employers who regularly use these types of tests have had successful results with their new recruits.

- ☞ The BEaR study conducted in the Shuswap in 2000 cited that almost one-half of the manufacturing businesses interviewed needed more information on how to target foreign customers and market their products outside of Canada. We discovered that this important finding and knowledge gap still exists among the Shuswap manufacturers four years later.

Some employers who have focused their marketing on international and United States markets have been very successful while others struggle with ways to find more contracts and break into new markets. A workshop for manufacturers on competing and finding and breaking into new markets for their products could be offered.

- ☞ For those who are experiencing tremendous growth and problems managing that growth -- a short workshop detailing ways to manage the

growth and how to keep up to demand with their product in terms of staffing and equipment limitations could be offered to manufacturers.

- ☞ Soft skills such as work ethic, motivation and teamwork skills were deemed to be very important by both employers and employees. However, employers felt these were the most prevalent skills some of their employees and potential applicants lacked.

Potential employees and recent high school graduates need to learn the value of these important soft skills in the workplace. Ability to deal with the public and supervisory skills were also found lacking among employees.

It is strongly recommended that curriculums be reviewed and if these soft skills are not being currently taught consideration should be given to offering a course in them along with some work experience in order to reinforce these soft skills. This course would be greatly enhanced if students could use the soft skills learned in live settings in business. At the same time, service providers whose clients include the unemployed, should consider a workshop for their clients on the importance of soft skills.

### **Human Resource Recommendations**

The human resource situation in the manufacturing sector is a complex interaction of new skill requirements, gaps between training capacity and industry needs, and the emerging imbalance in labour force supply and demand. This complex issue calls for a coordinated approach supported by employers, educational institutions, industry associations, and government.

- ☞••To have a successful human resource strategy at the sector-wide level, it will be important to build long lasting partnerships based on commitment and ownership, between Salmon Arm Economic Development Commission, employers, service providers, and the various educational institutions.

## **Meeting the Future Training Needs of Present Employees**

The recommendations that follow suggest steps each stakeholder can take to address particular training needs, beginning with needs of present employees.

### **1) Educational Institutions**

- ☞ It is recommended a supervisory skills course be offered, as many employees and employers requested. Workers are commonly moved into supervisory positions without training. The course might offer communication, motivation, and organizational skills that would lead to increased productivity.
  
- ☞ Educators or trainers could investigate different ways they could administer and provide non-traditional forms of program delivery such as mobile delivery-of courses to businesses. Employers might join together to make course delivery at one location possible.
  
- ☞ There is a role available to facilitate and support on-line training and distance education in the trades. The new provincial apprenticeship model includes plans to work out delivery of some training in this way. It is recommended that other non-traditional delivery methods such as mobile courses, the development and marketing of on-line courses, and distance education programs be explored.
  
- ☞ It is recommended that an area provider investigate the province's proposed locally delivered apprenticeship trainer activities.

- ☞ The Education and Training community is encouraged to provide a course calendar for employees and employers, distributed at manufacturing sites and other appropriate locations. With local training options being discussed by the new Industry Training Authority, there may be an opportunity to offer existing education/training facilities to run as many workshops and sessions as possible.
  
- ☞ Trades training institutions throughout the province should be encouraged to work with industry associations (such as Canadian Manufacturers Exporters) to set up a system to share training resources wherever possible.

## 2) **Manufacturers**

- ☞ It is recommended that employers continue widespread and diverse cross-training policies. Potentially, strategies around cross training could be part of a supervisory skills course.
  
- ☞ Workers indicate they are more inclined to stay with an employer who communicates expectations and develops policy around wage revisions. Manufacturers could develop these skills through a local education/training facility or industry sponsored mini-seminar.
  
- ☞ Employees have generally asked for more training. Employers might develop a measure of how much training to provide for their workers based on a percentage of the payroll. It is hoped that the government would recognize this amount and provide a tax incentive to the manufacturer.

- ☞ It is recommended that manufacturers create new ways to deal with the outflow of skilled workers through retirement. Possible strategies suggested are to:
  1. Adjust production methods in order to keep a valued, older worker
  2. Encourage job-share options
  3. Engage in mentorship programs
  4. Provide flexibility around retirement compensation.
  
- ☞ It is in their best interest that manufacturers take on more apprentices and maximize use of Secondary School Apprentices. Findings from this study show apprentices tend to stay with their Shuswap employer upon completion of training, unlike those reported in other areas. Difficulties for smaller manufacturers in supporting apprentices should be addressed by provincial policy such as flexible training blocks based on skills mastered and not hours put in, and by policy that ensures Employment Insurance eligibility stays in place during the time a worker must be away at training.
  
- ☞ It is recommended that aspects of the Industry Training Authority (ITA) administrative budget be restored to once again allow for Apprenticeship counsellors.

### **Meeting the Training Needs of Potential Employees**

The recommendations that follow apply not only to entry level and young workers, but also to workers changing jobs who may have valuable skills and work experiences.

The recommendations begin with broad strategies to attract workers to manufacturing and the trades.

### **1) Educational institutions**

- ☞ Beginning at young ages, it is recommended that educators engage in activities that increase the profile and showcase the trades/manufacturing career opportunities. Pilot programs have successfully promoted a positive image and very early interest in trades careers. An example is the Nanaimo School District field trips to a community industry in 2001 for every Grade 6 class in the district. The Shuswap has exciting industries suitable for field trips including houseboat builders, high-tech sawmill equipment manufacturing, and steel fabrication businesses, and many more.
  
- ☞ At the District level, it is recommended a guiding philosophy be established: the trades, manufacturing, and related technology need our best and brightest, we need to reach them at an early age and get them interested.
  
- ☞• Elementary instruction could promote a positive image for ‘mucking about’ with tools by holding elementary school Junkyard Wars, based on the popular TV program of the same name.
  
- ☞ At the High School level, schools are encouraged to continue efforts to counter negative perception of the trades with parent orientation workshops, Trade Shows and Fairs presented at the school.

- ☞ High Schools are encouraged to offer a bridging math course between Basic Fundamentals and Applied Math, to ensure basic competencies, especially with fractions, are mastered by all High School graduates.
  
- ☞ The BC Ministry of Education is implementing new graduation requirements and directs browsers to local school district web sites for specific information about the eight new Focus Areas. This could be an opportunity for our schools to promote and show links on their web site to Career Tech Centres accessible to Shuswap students.
  
- ☞ It is recommended that secondary schools continue to develop innovative programs in partnership with OUC and industry, such as the Shuswap Construction Industry Professionals (SCIP) house-building project.
  
- ☞ The Ministry of Advanced Education could be urged to assemble Resource Kits promoting Secondary School Apprenticeship and technical High School programs.
  
- ☞ Schools could initiate partnerships with Credit Unions, Banks, or other business looking for community presence. In one pilot project in Ontario, a school board successfully brokered CIBC to sponsor a Youth Pre-Apprenticeship program with a \$60,000 grant over a 2 year period. Because they reach Grade 7-10 students, these projects link to Focus Areas in the new graduation requirements.

These projects:

- Arrange on-site tours and training site visits including introducing design and tech students to occupations available in manufacturing.

- Allow manufacturers to participate by helping to put selected students through pilot training projects a few hours a day. These projects demonstrate how training is done, and done properly.
- Arrange on-site visits to introduce business and entrepreneurial students to venture opportunities.
- Set up Job Shadows: one-day placements with manufacturers. In the Shuswap, placements might be with skilled craftsmen, trades, or computer controlled machinery operators.
- Bring resource speakers to schools, including business, industry and skilled workers/labourers.

☞ It is recommended that efforts continue which strengthen linkages between industry and Post Secondary, Pre-apprentice, and Apprenticeship programs. Educators/trainers could lobby the Advanced Education Ministry to gather course offerings of trade/technical institutions and information on credit transfers available. Stakeholders could work with the Ministry to ensure they understand the importance of distributing this information in a course calendar format to educators and manufacturers.

☞ Industrial Arts teachers could be supported to take steps to re-introduce fully equipped tech/trades shop courses. Government could be encouraged to make funds available as was done in Nanawich High School, New Brunswick, which ultimately led to the school establishing Mill Stream Boat & Canoe Company. Professional development or University teacher training may be needed in this scenario to address the new objectives and equip teachers to run the course so that it will bring students into career preparation.

- ☞ Manufacturing jobs require on-going learning. It is recommended that the new Focus Areas teach this principle: the start of a worker's career is not the end of their learning.
- ☞ For High School Career Counsellors, it is recommended new Focus Area curriculum is used in order to ensure students have a chance to focus on what they might do if they don't take a University path. Counsellors should ensure students see participation is open to all and can be linked to diploma later, i.e. through Career Tech Centres.
- ☞ Regarding Work Experience hours, one recommendation is that the counsellor's role might include helping the manufacturer find interested workers. Professional development funding may be required, and might come from the Ministry of Advanced Education.
- ☞ Another recommendation is that the district compile an inventory of employers willing to serve as guest speakers and/or conduct site visits for parents, teachers and students.
- ☞ Counsellors might find and show positive role models or advertising that promotes an attractive image of manufacturing and trade occupations.
- ☞ It would be important for all training and educational organizations to identify a key contact for their trades/tech programs. This would help to strengthen linkages to the employment community with an on-going relationship.

- ☞ There is an opportunity for educators/trainers take a role in the proposed Industry Training Authority plan for locally developed and delivered training. It is suggested that educators/trainers work with industry to set up faculty time to work with manufacturing companies, in order to develop relevant training curricula. This position might be set up as a co-operative program.

## **2) Service Providers**

- ☞ It is recommended that local service providers take a role in raising the image of the manufacturing sector and the trades. They might hold Job Fairs in the community, i.e. at High Schools or on reserves. They could distribute promotional materials to attract women, First Nations, and other workers to manufacturing.
- ☞ It is suggested that lead funders search out and determine appropriate action regarding an upcoming BC Chamber report “Critical Skills Task Force,” March 2004.
- ☞ It is strongly recommended that local offices use their existing employment services to better meet Shuswap manufacturing skill shortages. Specific skill shortages identified in this study include: fabricators, millwrights, joinery journey persons, industrial electricians, machinists, welders, computer operated equipment technologists, and at higher-skill level, automated design engineers, sales and software developers.
- ☞ Employers mentioned that there is a lack of math literacy among present and potential employees. It is recommended that a course be offered to

teach these important math literacy skills to the unemployed who are seeking employment in the manufacturing industry.

- ☞ It was apparent when conducting the Literature Review of the Unemployed that there was a scarcity of data on the skill sets of the unemployed who came from the manufacturing sector. It is recommended that a questionnaire which asks for a detailed listing of skill sets is given to all the unemployed who seek help from service providers. A database could then be developed with all this important information and the skill sets of the unemployed could be matched with specific jobs in the manufacturing sector.
  
- ☞ Partnerships will be needed to promote workplace training with innovative pilot programs, cost shared between industry and government who could establish funds through educational institutions. Local stakeholders would do well to stay aware of developing opportunities.

### **3) Manufacturers**

- ☞ Manufacturers will be wise to ensure they are operating with full awareness of the pressing skills issues and the need to take action. It is strongly recommended that they get involved in measures to reduce impact of impending dramatic skill shortages. The following ways are recommended:
  - Advise or contract out as a trainer to the service providers offering employment programs. Take an active role to ensure that the skills the manufacturing sector needs are the ones providers are delivering.

- Support the industry association, Canadian Manufacturers and Exporters (CME), in their efforts to strengthen communication between employers and post-secondary institutions so they will they know which skills are needed now and in the future.

Recruiting skilled and motivated workers remains a key challenge for Shuswap manufacturers. Despite reporting significant difficulties filling positions, employers appear to be satisfied with the recruitment methods they use. Word of mouth and resume drop-offs may be successful in finding entry to some moderate-skill level workers but they are not as successful in recruiting moderate to high-level skilled workers, certified trades or other difficult to fill positions. This contrast between method and results has been described in other studies such as the Futures International report, Manufacturing in the North Okanagan, 2001 and the Business Expansion and Retention Study (BEaR) of 2000.

☞ It is recommended that employers examine their recruitment strategies to ensure that of a full range of proactive methods are in use. Manufacturers might consider an on-site recruitment strategy session. It is important that manufacturers:

1. Use the Apprenticeship Program to prepare for future vacancies
2. Maximize the use of High School and Post Secondary training programs
3. Implement continual recruitment strategies: knowing where potential employees are and how to recruit them
4. Use effective networking strategies

5. Utilize available employment centres such as the OUC-Salmon Arm Work Search Centre
6. Cope with new or advanced technology in an internal posting at a business where a collective agreement is in place. Build flexibility between union and management to allow for the fact that the most senior applicant may, in this case, not be the best candidate
7. Learn to use and manage responses from newer resources such as HRDC On-Line Job Bank, and career websites.

☞ Course designers could bear in mind that manufacturers requested a number of courses that would be enhanced with an interactive model for learning. They requested strategic management of growth, supply chain management, recruitment strategies, human resource development, identification of transferable skills, motivation techniques, and employee empowerment.

☞ Marketing was clearly identified, as a course employers would like to take if it were offered locally. The BEaR Study also described this need. However, employers expressed important cautions to course designers. Previous attempts at offering marketing courses were not well attended and seem to indicate a need to design more specific courses. In this case, a marketing course would best suit their needs if it focused on their sub-sector of manufacturing. Employers said they need a marketing instructor who is recognized as an expert in their industry and, specifically, in their sub-sector of manufacturing.

