

Title: Needs Assessment for the Construction Industry in B.C. & the Yukon

Organization: BC Construction Industry Skills Improvement Council

Complete text:

Increasingly, the world of work is bearing the imprint of changing technology and increased competitiveness. Educational and technical standards which once served workers well now may be barely adequate to sustain present jobs and future employability. There is a growing realization by workers in all sectors of the economy that upgrading has become an essential part of life. Employers are demanding greater skills of new entrants to the job market and are seeking heightened skills of workers already in the workplace. Both employers and unions are addressing the challenge of training and retraining.

This need is particularly felt in the construction industry which has been affected by technological change in many ways. You have only to look at several areas of the industry to see how change is exemplified. Laser technology is affecting the work of the machinist, while elevator constructors are moving from conventional relay logic equipment to solid state equipment and microprocessors. Even the labourer, traditionally regarded as the incumbent of one of the lesser skill areas, is affected by new technology, as in the use of "total stationing units" to replace the old transit and level used in survey work. The "total stationing unit" shows information on a screen, and math is then used to chart and graph it and transfer it to a field book. Virtually no skill or trade area is untouched by change.

The collective agreements in the industry encourage technological change as a means of increasing economic efficiencies. Training and retraining programs are no strangers to the construction industry. Indeed, the construction industry has piloted the use of the training trust fund, jointly funded by business, labour and employees to deliver a wide range of technical and trades expertise to union members in the trades. Such training has, however, for the most part concentrated on the practical and technical aspects of jobs. Little attention has been paid to the basic skills of reading, writing, numeracy and oral communication which are fundamental to successful work and the base of effective training.

SkillPlan was established to look at this vital area of basic skills acquisition and enhancement. The identification of the skills which workers need and the skills which workers have will help to determine training requirements and priorities. In addition, the whole area of worker aspirations forms part and parcel of an effective approach to training.

Basic skills have often been looked upon as disembodied - as part of a general education obtained in or through the schools and quite foreign to the world of work. The analysis of skills which follows will be looking at basic skills from an entirely different perspective. Our view is that basic skills and trades skills are integrated parts of one whole, and that basic skills can no more be ignored in creating the whole worker than can the prized technical skills.

The SkillPlan agenda will rest on this view and will build upon the concept of lifelong learning.

CONCLUSIONS AND RECOMMENDATIONS

The responses to the Basic Skills Needs Assessment questionnaire provide a snapshot of the industry. They reveal the range and scope of training initiatives in general, not just with regard to basic skills but in the fuller dynamics of training. They reveal as well a picture of an industry engulfed in changes - changes in technology, changes in systems, changes in approaches and directions.

While this analysis concentrates on "basic skills" aspects of the trades, it is impossible not to look at the broader picture revealed by the assessment. Indeed, it is the placing of the basic skills aspects within the context of the broader scene that allows us to draw conclusions as to how basic skills upgrading may contribute to a more positive and productive working environment.

Each of the 27 questions asked in the Needs Assessment Questionnaire has provided input to the conclusions and recommendations which follow.

SUMMARY OF RECOMMENDATIONS

Recommendation 1

It is recommended that SkillPlan further research areas of commonality in function or processes across the trades in order to use this information in designing complementary basic skills training.

Recommendation 2

It is recommended that SkillPlan look at how the network of some 100 instructors can be used to promote the acquisition and enhancement of basic skills within the context of trades training. It is further recommended that attention be given to how SkillPlan can reinforce the basic skills training efforts for those unions which have a very low allocation of human resources devoted to training.

Recommendation 3

It is recommended that, after consultation with training coordinators and selected workers of selected trades, SkillPlan conduct a Literacy Task Analysis of a number of jobs within the trade area so that worker basic skills training may be targeted to real needs. Literacy Task Analysis is a process which examines the tasks within jobs with special emphasis on the reading, writing and numeracy components within those jobs. Unions chosen will be those which have indicated a wide choice of specialty areas for workers. The purpose of this initiative is to give workers more confidence in accessing new opportunities within their trade.

Recommendation 4

It is recommended that SkillPlan obtain or prepare an inventory of facilities where ESL training is available throughout B.C. The inventory should be distributed to all training plan coordinators for dissemination to their members.

Further, SkillPlan could consider a specific ESL initiative for one or more of the unions exhibiting the highest number of ethnic members.

Recommendation 5

It is recommended that SkillPlan in conjunction with the B.C. Construction Industry Health and Safety Council, facilitate both English language learning for immigrant members and acquisition of WHMIS information by preparing a multilingual approach to WHMIS documents (juxtaposition of English and other languages) so that the material may be used as an ESL bridging tool.

Recommendation 6

It is recommended that SkillPlan:

- (a) design and provide a short course for apprenticeship candidates on exam taking strategies
- (b) encourage a review of the competency based exams presently being given either through training programs or institutions to assess the degree to which these exams offer an appropriate level of Clear Language and suitable format and content.

(c) prepare an inventory of all training done by employers and suppliers so that SkillPlan can liaise with them, as with the union training plans, on matters relating to Clear Language and other basic skills issues (e.g. - Hilti Gun courses, WHMIS, Bricklayers refractory and corrosion courses, Boilermakers courses.)

(d) liaise with trades training coordinators to establish whether there is a cross trade need for a course on powertools. Such a course would be particularly useful for cement masons. The conceptualization and design of such a new course would give SkillPlan the opportunity to work with trades trainers on the basic skills elements of such a new course. This could provide a pilot for integration of literacy into technical content.

Recommendation 7

It is recommended that SkillPlan use the information of concentrations of target groups and average education and age levels of memberships in order to plan specific initiatives for target groups, such as:

- advising training plans of curriculum planning directions which would serve the needs of their membership (e.g. - a course where a large number of cement masons would be participating would have a high ESL approach, while a course with many Ironworkers would concentrate on visual and symbolic content to meld with native patterns of learning.)

Recommendation 13

It is recommended that SkillPlan conduct a more in depth study of the barriers to training opportunities with a view to determining an action plan to reduce those barriers which are within our mandate.

Recommendation 14

It is recommended that SkillPlan work with the Trades Training Plans to prepare an inventory of the courses which are available through each training plan, with a view to having a complete picture of the opportunities which are available in each trade.

It is further recommended that SkillPlan work with Training Plans to examine methods of promoting course attendance and in particular that SkillPlan examine a variety of course material with a view to assessing the degree to which Clear Language and more diverse presentation of material may lead to increased interest in accessing the range of training opportunities which are available.

Recommendation 15

It is recommended that SkillPlan provide training plan coordinators and instructors with information on the various models of basic skills instruction, including the philosophy, methods and strengths of each model so that they can assess the model which will best fit their needs.

It is further recommended that SkillPlan provide one or more sessions on Basic Skills Strategies in which the subject will be more fully explored.

Recommendation 16

It is recommended that SkillPlan add Effective Oral Communications to the areas of its mandate and that the ways in which oral communications are used in the construction industry be used as a backdrop for determining approaches to reading, writing and math upgrading.

It is further recommended that the promotion of courses focus on "basic skills upgrading" and "communicating" and that the word "literacy" be downplayed in the presentation of training options. This approach is in keeping with removing the stigma which accompanies the word "literacy" and is also consistent with the concept of a skills continuum in which individuals display varying strengths demonstrating different skill levels in different endeavours.

Recommendation 17

It is recommended that SkillPlan design a course on How To Use Forms, such as application forms and forms for receipt of benefits, drawing from examples of real forms in use in the construction industry.

It is also recommended that SkillPlan prepare a document on Using Graphs And Charts. This document would focus on the basic skills required to effectively use charts and graphs and would be a resource for trainers.

Recommendation 18

It is recommended that SkillPlan offer a Clear Language Consultancy Service to trainers

who wish advice on how documents in use could be better moulded to clarity of presentation.

A Glossaries Project would form part of this service. A major aim of the project will be to show how such documents can be used as a means of building skills and aiding in comprehension of complex workplace documents.

Recommendation 19

It is recommended that SkillPlan design a session for trainers on Reading Strategies and Learning Styles. The aim of the session is to sensitize trainers to the variety of basic skills needs among trainees and how to help trainees build effective reading and learning strategies.

Recommendation 20

It is recommended that SkillPlan prepare a course on Critical Thinking and Problem Solving aimed at a cross section of construction workers who would like to upgrade their skills. This course would serve as a pilot for future initiatives in this area.

The information received from the focus groups confirmed a number of key findings of Part 1 of the Basic Skills Needs Assessment and raised several new areas of discovery.

- Terminology presents a problem in the trades for both native speakers and ESL speakers. Publications are not always available in Clear Language.
- Reading with full comprehension is seen as a problem while basic reading is not. Oral communication and memory are important.
- Not having a good grasp of math can be embarrassing for many workers. Those who most need the upgrading are most unlikely to access it.
- Workers have good coping skills - if one can't read instructions, he will use the buddy system to try to get the job done.
- Electronics, computers and lasers have introduced new reading needs and new concerns.
- Tests and exams create anxiety. Tests are often not relevant, but even in practical areas they cannot always be avoided.
- Many barriers exist which prevent workers from accessing available training opportunities.
- Workers need encouragement to seek upgrading. This encouragement must come from employers, unions and educators. Including family members in training could make it more attractive.
- Weekends and early evenings are the best time for courses - also January to March or in the late fall.
- Personal contact and building on trust are essential elements of promotion of upgrading. Visible management support is essential.
- There are a variety of trade areas which would be more easily learned if they rested on a foundation of strong basic skills. These range from blueprint reading to preparing for a TQ.
- A preparation for pre-apprenticeship would be useful.
- Foremen have many reading/writing needs, and many tradesmen aspire to being a foreman.
- Often there is not diversity and flexibility in the jobs that members are assigned to within their trades.
- A mobile course delivered through the trades training plans is viewed as desirable.

What comes across particularly clearly in the focus groups is that workers would

welcome management support and incentives in meeting their basic skills upgrading needs. Indeed the role of management is crucial in several ways. Workers want to know that if they aspire to be a foreman, this goal will be met with management respect and a willingness to provide the necessary training. They want to know that their needs as whole workers are being taken into account - that they will not be required to "drive nails" day after day with no opportunity for a more interesting and diverse work experience.

It was also evident that, as strong as the union based training plan is, workers want to know that management supports their training in a more than perfunctory way.

Recommendation

It is recommended that:

SkillPlan investigate and promote "training recognition" plans or proposals which recognize workers who undertake and complete basic skills upgrading programs in a variety of areas including reading comprehension, writing, maths, ESL, communications, team building and problem solving.

It is also recommended that the unions or their training plans continue to keep careful records of members' relevant courses to underline the importance of these endeavours and to foster a learning culture.

MANAGEMENT PERSPECTIVE

There is no one management perspective to basic skills and their place in the industry's well being and growth. Many companies see trades skills as critical but are not fully aware of the delicate balance which exists between a foundation of basic skills and the ability to acquire new trade skills. Companies who see training as an imperative are generally willing to explore the place which basic skills enhancement plays in the lives and productivity of workers. This is indeed positive for SkillPlan.

SkillPlan's interaction with several employers has led to the following observations.

1. Companies are concerned that mistakes are being made on the job that could have been avoided if workers had a higher level of basic skill competencies. Stories of confusion abound about the incorrect use of measuring tapes, and the inability to interpret drawings. Such mistakes lead to costly situations such as, for example, stair landings being set in the wrong place. This type of error can take or three person days to rectify, as in this example, or much longer in a more serious case.
2. There appears to be a desire on the part of management in some companies that a worker at the journeyman, non supervisory level have "enough" information but not "too much" information to do the job. This attitude leads to a conscious policy of not training most workers in a number of areas where they may benefit by gaining greater competence such as the use of blueprints. The attitude that "it's for the foreman to know" can have some unexpected downsides, since it keeps many workers in a static condition. It also may inhibit workers from aspiring to a foreman position since the context of a foreman's job remains a mystery.
3. There is an encouraging openness by some companies to reexamine the way they are going things. SkillPlan these questions from management. "Are we training our people properly?" "What is the problem with the way we're working?" "Are the skills of superintendents adequate?" In other cases there is simply a feeling that many of the workers come to the industry with inadequate skills and that the answer is to get rid of those who can't produce.
4. There is a great deal of teaching going on in the construction industry, although it may not be recognized as such. The role that foremen play in imparting knowledge to journeymen is quite striking. Often this involves a type of mentoring in which the foreman tests the journeyman's problem solving ability rather than simply giving directions. This same type of mentoring takes place between a journeyman and an apprentice. Recent Literacy Task Analyses carried out by the Skills Analyst and the Research director of SkillPlan provided useful information on the importance of this teaching role.

Recommendation

It is recommended that SkillPlan work with management and unions to facilitate methods of imparting to foremen information which may help them in the teaching/mentoring role.

SkillPlan's contribution of a basic skills component to existing foremen's courses could form part of this initiative. It is also recommended that SkillPlan establish a more formal link with apprenticeship courses in order to more fully understand the dynamics between apprentices and journeymen in the mentoring process so that sensitivity to this interaction can be built into training initiatives.

Recommendation

That SkillPlan

(a) enter into discussions with the BCYT Camp Committee, employers and owners to discuss logistics of placing a computer learning station at a construction camp, and

(b) that SkillPlan enter into further discussions with community colleges, including Yukon College, the Yukon Literacy Council, and the Whitehorse Building Trades Office to determine possible learning partnerships.

Recommendation

That SkillPlan continue to work closely with the B.C. Construction Industry Health and Safety Council on matters of mutual concern, including referrals of trainees to basic skills upgrading, advice on Clear Language approaches to materials development and on approaches to test making and test taking.

Recommendation

That SkillPlan do a short presentation to participants in each cycle of the Rehabilitation Plan's program to make them aware of what basic skills upgrading opportunities are available and to offer them an individualized learning plan after they have completed the residential portion of the program.

Recommendation

That SkillPlan examine options for extending both computer assisted and computer based basic skills upgrading programs appropriate for the geographic area of our mandate. These options will explore possible delivery linkages with the Open Learning Agency, colleges, and learning centres, and the suitability of offering programs in company and union locations.

LINKING TO OTHER RESEARCH ON TRAINING

In December, 1991, *Learning and Work, the Way Ahead for British Columbia* was issued. The report was based on the work of the British Columbia Task Force on Employment and Training which was announced on August 17, 1989 by the Minister of Advanced Education, Training and Technology. The Task Force Members represented business, labour and education.

The Task Force concluded "that skill requirements for jobs have changed and will continue to change. Individuals with good basic skills - literacy, numeracy and critical thinking - are most likely to adapt successfully to new labour market conditions. This implies that acquiring good basic skills should be promoted in the education system as well as among British Columbians already in the labour force. Another implication is that workers should be prepared to meet new skill requirements through periodic retraining and upgrading." (our emphasis)

The development of a training culture was seen by the Task Force as a key policy proposal.

They see it this way:

"There is general agreement in the literature that workplace training and human resource development should become integral parts of the way businesses operate in Canada. Integrating training as part of running a business, and as a normal part of employment, is generally referred to as a developing a training culture."

A sectoral approach to training is favoured by the Task Force.

Another view of education and training is provided in another study (yet to be released) which deals with the technological and human resource development capacities of various industries. In the chapter on Recent Developments in Selected Occupational and Training Areas, this statement appears.

"New tools and equipment have made construction work less physically demanding, but increased the mental requirements of some jobs. A British Columbia Building Trades survey of tradespeople and contractors found that construction workers were being required to use a wider range of skills, but used each skill less frequently. The study found fears of de-skilling in certain areas where prefabrication and simplified installation techniques are used."

The research done in these two reports is supportive of industry driven efforts to promote the acquisition and enhancement of basic skills - those parallel skills which, together with trades skills, make up the whole worker.

The Basic Skills Needs Assessment process has provided a wide array of perspectives on how various parts of the industry view training. There is management, with its diversity of philosophies about training. There are unions seeking to make their training plans more attractive and useful for their membership. There are individual workers with at times conflicting attitudes toward upgrading.

What is at the core of the matter is the acceptance by all partners of a training culture - a culture which says, not only that basic skills upgrading is "alright" and "acceptable" but that it is "expected" and "desirable". It is a culture as well which treats upgrading as an

investment rather than a cost.

A training culture does not develop and expand overnight. Like the enhancement of basic skills, the development of a training culture which will actively foster that enhancement is on a continuum.

A large part of the SkillPlan mandate is to stimulate movement along that continuum so that the parallel skills which are so essential to company productivity and worker satisfaction will be able to grow and prosper.

For more information contact:

B.C. Construction Industry Skills Improvement Council
404-737 Carnarvon Street
New Westminster, BC
V3M 5X1
Tel: (604) 526-8020