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Improving the Recruitment and Retention of Instructors in High Demand Industrial Programs

**A Study conducted for the Northern Alberta Development
Council, Grande Prairie Regional College, Keyano College,
Northern Lakes College and Portage College**

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Table of Contents

Executive Summary.....	1
Introduction	3
Project Methodology	3
Findings	7
Student and Labour Market Demand	7
College Administration	7
Program Faculty	12
Industry Contacts	16
Other Post-Secondary Institutions	18
Recommendations	20
Economic Strategies	20
Social Strategies	22
Organizational Culture Strategies	22
Staffing Alternatives	24
Industry Contributions	25
Government Role	25
Conclusion: Communication and Collaboration	25
Appendix A – Faculty Survey Summary	27
Appendix B – Faculty Survey Instrument	33
Appendix C - 4-Year Enrolment Trends in Selected Industrial & Trades Programs.....	36
Appendix D - Alberta's Occupational Demand and Supply by Selected 4-Digit NOC-S Code	38

Executive Summary

Alberta's cyclical economy has always posed challenges for the province's post-secondary institutions, particularly in programs closely aligned with resource-based and construction industries. Periods of rapid growth create strong student and employer demand for these programs, but also provide lucrative employment alternatives for those qualified to teach in them. Post-secondary institutions find themselves unable to compete with industry pay scales in recruiting and retaining faculty, at exactly the time when program enrolments are expanding and more instructors are needed. While not unique to northern Alberta, this problem is particularly acute in this region, where industry salaries are higher than average and other factors such as community isolation more pronounced.

In November 2013, the Northern Alberta Development Council (NADC), in collaboration with four northern Alberta colleges (Grande Prairie Regional College, Keyano College, Northern Lakes College and Portage College), under the Northern Labour Market Information Clearinghouse joint initiative, commissioned a study to identify key factors impacting the colleges' ability to recruit and retain instructors in selected industrial and trades programs and to identify strategies to address these challenges. The project focussed on five program areas (power engineering, steamfitter/pipefitter, welding, heavy equipment technician and crane operator/boom truck)

Project Methodology

The project involved the collection of information and opinions on issues relating to faculty recruitment and retention in these programs from four key groups:

- College administration (program and human resource staff).
- Faculty members in these programs.
- Industry representatives.
- Other post-secondary institutions offering similar programs in rural areas.

Input was obtained from these stakeholders through interviews, teleconference focus groups and an online survey, focussing on the following topics:

- The magnitude of the problem of recruiting and retaining faculty in these programs
- Factors that contribute to the problem
- Solutions attempted in the past and lessons learned from these experiences
- New solutions that should be considered or pursued by the colleges, industry or government

Findings

This research generated a wealth of information in the following areas:

- A background of high student and labour market demand for these programs and occupations.
- Serious and ongoing challenges in recruiting and retaining faculty in these programs.
- Significant differences between institutional and industry pay scales as the primary factor in this situation.
- Housing costs and isolation in northern communities as other key elements of the problem.
- Major differences in organizational culture between industry and post-secondary institutions, and the difficulty many instructors face in making the transition between these cultures.

- The college work environment and the rewards to the teaching role as important contributors to faculty retention.
- Identification of a wide range of monetary and non-monetary options to address the various factors contributing to the overall challenge of faculty recruitment and retention.

Recommendations

The high degree of consistency across the four response groups in proposed approaches to improving faculty recruitment and retention resulted in identification of a range of strategies, including the following:

- Review faculty salary grids to ensure appropriate compensation for instructors with industry and trades certifications.
- Provide market supplements to reduce the pay differential with industry.
- Offer assistance with housing to address the stresses associated with relocation.
- Emphasize the lifestyle benefits of the college environment and the teaching role when recruiting faculty.
- Focus recruitment efforts on local communities and industries to reduce relocation problems and costs.
- Promote the community as well as the institution to both prospective faculty members and their families.
- Take action to address the perceived low status of industrial and trades programs and faculty in institutional hierarchies.
- Initiate program-specific approaches to the hiring, orientation and professional development of instructors in industry and trades programs.
- Review institutional policies and practices that impact the recruitment and retention of faculty with industry backgrounds
- Foster an “environment of inclusion” for faculty in trades and industrial programs which enhances their status and increases opportunities for mentoring, networking, support, professional development and recognition.
- Examine and pursue opportunities for secondment of faculty from industry, while carefully monitoring the impact of such arrangements on other program faculty.
- Carefully consider the option of engaging faculty in these program areas on a contract basis.
- Investigate other creative and options in collaboration with industry, in discussion forums facilitated by government agencies such as the Northern Alberta Development Council.

Conclusion: Communication and Collaboration

The report concludes with a proposal to establish an ongoing mechanism for communication and collaboration among the four northern colleges at the dean/director level, to provide a mechanism through which joint action can be taken on a range of initiatives to address the challenges identified by this study, as well as other matters of common concern in industry and trades programming.

Introduction

Post-secondary institutions in Alberta, particularly northern Alberta, face significant challenges in recruiting and retaining instructors in a variety of industrial and trades-related programs. Alberta's strong economy generates high demand in occupations such as power engineering, welding, plumbing and pipefitting, and graduates from such programs have excellent employment prospects and are well paid.

However, the same factors that drive high student demand for training in these occupations make it difficult for institutions to recruit and retain qualified instructors. Individuals with the qualifications and certification necessary to teach in these programs are also well-qualified to work in industry, often at levels of compensation significantly above what they could earn as instructors in the post-secondary system.

In November 2013, the Northern Alberta Development Council (NADC), in collaboration with four northern Alberta colleges (Grande Prairie Regional College, Keyano College, Northern Lakes College and Portage College) initiated a research project to identify key factors impacting the colleges' ability to recruit and retain instructors in selected industrial and trades programs and to identify strategies to address these challenges.

The project originally focussed on three program areas (power engineering, steamfitter/pipefitter and welding), but was expanded to include two others (heavy equipment technician and crane operator/boom truck) based on institutional feedback that these programs face similar challenges to those originally identified.

Project Methodology

The project approached the issue of recruitment and retention of industrial instructors at the four northern colleges from the perspective of four stakeholder groups:

- Those responsible for hiring and supervising instructors in the selected programs (i.e. deans, program chairs and human resource personnel) at the four colleges.
- Current instructors in the selected programs.
- Representatives of industries that employ members of the selected trades and occupations.
- Officials of other post-secondary institutions in Alberta and British Columbia that offer similar programming in similar settings (i.e. rural areas), to determine whether they face similar challenges and have developed approaches to this problem that are worthy of consideration by the colleges participating in this study.

The project was undertaken in five phases.

Review of background data

Background data on student enrolment, graduation numbers and staffing in the identified programs were provided by the colleges, and information on projected employment demand in these occupational areas were accessed from publicly-available government reports.

These data were reviewed to provide a background to the supply and demand issues facing these programs. A brief literature search was also conducted to seek information regarding strategies that may have been undertaken in other jurisdictions to address similar challenges. However, this search did not yield any information of value to the study.

Institutional consultations

Teleconference meetings were held with officials at each college, including deans, program chairs, human resources personnel and senior faculty selected by each institution. A total of fourteen institutional representatives took part in these consultations, which focused on the following issues:

- The magnitude of the problem of recruiting and retaining qualified instructors in the programs under study.
- Factors contributing to this problem.
- Solutions that have been considered or implemented in the past, and any lessons learned from these experiences.
- New solutions that should be considered or pursued.
- Suggestions regarding potential contacts with industry (some industry contacts were identified in the initial project research, but other suggestions were sought on the assumption that individual references might prove more productive than “cold contacts”).

Faculty survey

Based on input obtained during the institutional consultations, a survey instrument was designed to gather input from faculty members in the five program areas on issues relating to faculty recruitment and retention. The draft survey instrument was reviewed by NADC and key college contacts, and revised based on their feedback. The survey questions invited faculty to provide their perspectives on the following topics (the instrument is included in this report as Appendix B):

- Key factors in their decision to accept their current teaching position (recruitment).
- Key factors in their decision to stay in their current teaching position (retention).
- Major challenges facing their institution in attracting and retaining instructors in their program area.

- Suggestions for strategies their college could adopt to improve recruitment and retention of instructors in their program area.
- Suggestions regarding possible roles for industry in helping colleges improve the recruitment and retention of instructors in their program area.
- Suggestions regarding possible roles for governments in helping colleges improve the recruitment and retention of instructors in their program area.

A total of 64 faculty members were identified in the five program areas. The survey was administered on-line using FluidSurveys software. An e-mail invitation and survey link were sent to all 64 instructors on February 24, 2014, and a follow-up reminder to those who had not yet responded to the survey was sent on March 3. The survey was closed on March 8 with a total of 51 responses having been received, for an overall response rate of 80 per cent.

Industry consultations

Obtaining input and suggestions from representatives of industries which employ workers in these trades and occupations was an important element of the project research. Initial investigation identified a number of trade and industry associations related to these occupations, and suggestions were also sought from institutional officials for industry contacts who might offer valuable input.

A total of 18 companies and industry associations were identified through this process, and in many cases individual contacts were suggested by college officials. All of these contacts were approached by e-mail and/or telephone, and several follow-up attempts were made to those that did not respond.

In the end, these efforts resulted in telephone interviews with six industry representatives from five companies and associations: Cenovus Energy, Diashowa-Marubeni International, MEG Energy, Stat Oil, and the Alberta Boiler Safety Association. These interviews focused on the following topics:

- Whether a shortage of qualified people in the selected occupations and trades exists in northern Alberta.
- Whether there are sufficient training opportunities for these occupations and trades in northern Alberta colleges, and if not, whether a shortage of qualified instructors is part of the problem.
- If a shortage of instructors exists, identification of factors that may contribute to it.
- Identification of strategies or initiatives undertaken by either industry or the colleges to address this problem, and an assessment of their impact.
- Suggested strategies for the northern colleges to address the issue.
- Possible strategies for governments to address this issue.
- Possible roles for industry in addressing the issue.

Although the number of industry responses was lower than hoped for, the quality of input and suggestions received from those who did participate represented a significant contribution to the project.

Consultation with other post-secondary institutions

In the absence of published material regarding the experience of other institutions in addressing similar challenges with faculty recruitment and retention, attempts were made to obtain such information directly from institutions which offer similar programs in rural settings at least somewhat comparable to northern Alberta.

Nine such institutions were identified in Alberta and British Columbia, and approaches were made to either their human resource offices or their deans responsible for trades and industrial programming. Five individuals representing four of these institutions agreed to provide input to the project. These institutions were:

- Medicine Hat College
- North Island College (Campbell River, BC)
- Red Deer College
- Thompson Rivers University (Kamloops, BC)

The questions used in discussions with officials from the four northern Alberta colleges provided the basis for these consultations, with the exception of the request for referral to potential industry contacts.

Summary of Project Respondents by Group

Response Group	Number of Respondents
College Administration	14
– GPRC	2
– Keyano	7
– Northern Lakes	1
– Portage	4
Program Faculty	51
– GPRC	22
– Keyano	14
– Northern Lakes	7
Portage	8
Industry Representatives	6
Other Post-Secondary Institutions	5

Findings

This section presents the results of a detailed review and analysis of the information and input obtained through the institutional consultations, interviews with industry contacts and officials at other post-secondary institutions and the survey of program faculty.

The findings are categorized by major response group to provide a comparative perspective on the input received from each set of stakeholders, and the commonalities which underlie the report's recommendations. A brief overview of student and labour market demand in these areas, drawn from institutional and government data, is also provided as background to the pressures institutions face in staffing the programs under study.

Student and labour market demand

An analysis of enrolment data for the programs under study for the last four years reveals growth rates of 11 to 78 percent across the four northern colleges combined, with some individual programs having experienced growth of between 100 and 500 percent (see appendix B). Even these growth rates may understate student demand and industry need for graduates of the programs, since the colleges are limited in their capacity to accept more students in these programs.

Data on occupational demand in these program areas suggest a high level of demand for graduates for the foreseeable future. Alberta's *Occupational Demand and Supply Outlook* for 2011 to 2021 projects significant and increasing shortages of steamfitters/pipefitters, welders and heavy-duty mechanics (see Appendix C), as well as a less dramatic shortage of crane operators.

While no similar shortage of power engineers is projected, it must be noted that these projections take account of the supply of workers in these fields, including increased numbers of graduates due to expansion of program enrolment. An analysis of employment trends in northern Alberta published by the Northern Alberta Development Council in 2013¹ identified pipefitters and welders as being in particularly strong demand, as well as graduates of heavy equipment technology programs.

College administration (deans, chairs, HR personnel)

Evidence of demand for trades and industrial faculty

For the most part, institutional officials were able to provide only anecdotal evidence of the challenges they face in recruiting and retaining faculty members in these high demand trades and industrial programs, but this evidence was nevertheless highly consistent and convincing.

¹Northern Alberta Development Council, *2013 Professional Workforce Scan - A multi-sector summary of employment trends across Alberta's north*, 2013

It is not surprising that hard data was not available regarding instructor turnover rates or the factors that influence them, as few institutions have the resources to conduct regular exit interviews. However, the following points serve to illustrate the common challenges that the four colleges face in this regard:

1. The need for instructors in these programs to work overload (i.e. a higher teaching load than provided for in faculty collective agreements) was mentioned by deans, chairs and human resource personnel at all the colleges. The need for overload teaching was described as a “two-edged sword.”

From one perspective, it provides a short-term solution to the shortage of faculty as well as increasing faculty incomes to a level somewhat closer to what they could expect to receive by working in industry. On the other hand, in the longer term overload teaching increases faculty stress loads and burnout, as well as eliminating one of the major “selling points” for working in teaching rather than in industry – greater work/life balance and more time with family.

It was observed in this regard that while overload is regularly offered or requested by the institutions, many faculty are not interested in this “opportunity.”

2. College human resource personnel reported being in a nearly constant recruitment mode for at least some of these programs. One college cited a program in which 15 instructors had been hired over the last six years to fill five teaching positions.

Other examples included running ongoing ads in various media, including Kijiji, trade papers, radio, etc. with little result, and of new hires giving notice even before starting work because they had found positions in industry at much higher rates of pay.

3. One college mentioned that some courses in these programs had to be cancelled or deferred in recent years due to lack of faculty to teach them. For similar reasons, colleges report being unable to respond to ministry requests for expansion of training spaces in these programs to accommodate growing student demand.

Factors influencing instructor shortages

College officials identified a wide range of factors that contribute to the shortage of instructors in these program areas, as outlined below:

Economic factors

Not surprisingly, economic factors were consistently identified as the most significant challenge. Simply put, qualified and experienced people in these trades and occupations can earn far more working in industry than by teaching at a college.

Estimates of the extent of this pay differential varied by program and institution, but ranged from 25 per cent to 100 per cent greater pay in industry. The issue was frequently summarized as “it’s the money.”

The high cost of living, particularly housing, in northern communities was identified as a related financial issue. While those receiving industry wage rates may be able to manage these costs, the situation is much more difficult for college instructors given their lower incomes.

Social factors

A variety of social factors were identified, demonstrating that “it’s not just the money.” The relative isolation of the communities in which these programs operate, including Fairview, Slave Lake, Lac La Biche and Cold Lake, makes it more difficult to recruit instructors from outside the region.

It was suggested that communities without an airport have a particular challenge in this regard, as access to health care and other important services is even more difficult. Representatives from several institutions commented that family reluctance to relocate to these communities is often a significant factor in applicants’ decisions to reject job offers, and contributes to turnover once the positions have been accepted.

It was also observed that in many cases applicants have an unrealistically negative impression of these communities, assuming far less in the way of services and amenities than actually exist.

Cultural factors

Another set of challenges colleges face in recruiting and retaining faculty relates to the significant differences in organizational culture between industry and post-secondary institutions. It was observed that faculty recruited from industry often struggle to adapt to different expectations in the institutional environment in areas, such as expectations of overtime pay in industry versus the many non-instructional demands on faculty members time for which no additional compensation is provided.

The length of probationary periods for faculty (2-3 years) was also identified as being foreign to recruits from industry. Several institutional representatives commented on the difficulty institutions face in devoting sufficient time, effort and support to assist new instructors in adapting to the post-secondary environment and culture.

Supply factors

Several references were also made to what might be termed supply factors in relation to the shortage of trades and industrial instructors. Instructors in these programs require a combination of industry expertise and teaching ability that is not common. The fact that expertise in a field does not automatically convey the ability to teach it is not unique to industrial and trades education.

However, several college officials observed that many successful tradesmen, who are likely to be hands-on learners, may have had less than positive experiences with traditional schooling, and may therefore have more difficulty in envisioning themselves in instructional roles.

Options to address the challenge

One of the key research questions of this study was to identify strategies that institutions could utilize to improve recruitment and retention of instructors in these high-demand programs. Institutional officials suggested a wide variety of possible approaches, as outlined below:

Monetary options

If it is true that salary discrepancies are the primary challenge facing institutions in this regard, at least some of the solutions must address this issue directly. Several colleges have already undertaken reviews of their faculty salary grids, which tend to place trades qualifications such as journeyman certification, at the low end of the salary range.

Salary or market supplements above the salary grid have also been tried or suggested as a means of addressing the pay differential with industry. While such supplements generate legitimate concerns regarding pay equity among faculty members, it should be noted that such arrangements are not unusual in other areas of post-secondary education, such as law and medicine, in which similar pay differentials exist between teaching and private practice.

While changes to institutional salary scales or market supplement arrangements enable higher salaries to be paid to instructors in these programs, institutions do not necessarily have the resources to meet these additional costs. At least one college uses funds obtained from industry to provide such market modifier payments on top of their faculty salary grid.

Providing support to address the challenge of housing costs is a strategy already in use by several colleges. At one institution with staff housing, a pilot program has been initiated to offer free accommodation to trades instructors for their first year, with a second year at reduced rent. Another institution provides staff housing on a short-term basis to ease new instructors' transition to the community, while a third provides housing for secondment positions but not for new full-time faculty.

Institutional representatives generally recognized the desirability of assisting new faculty in dealing with the local housing market in order to recruit successfully from outside the local region.

Non-monetary options

While acknowledging the need to address the salary gap with industry to the extent possible, institutional officials also recognized that institutions simply do not have the resources to equalize salary levels, nor could they do so without creating major problems of pay equity with other faculty in other programs.

It was suggested that institutions need to place greater emphasis in their recruitment efforts on the non-monetary benefits of working at a college, including regular hours without shift work, lower stress, more holiday time, summers off and generally greater work/life balance. One college has developed a video presentation, entitled "Working Late Again," to emphasize this point to potential faculty recruits.

In a similar vein, several institutions focus some of their recruitment efforts on industry workers in the later stage of their careers. One HR officer noted that some 60 percent of recent applicants were seeking their last job prior to retirement.

This approach has obvious benefits to both the employer and employee, since these workers have

considerable experience to offer and may put a higher priority on less physically-demanding work. It was suggested that armed forces retirees, who retire early with good pension benefits, may be a particular target group for faculty recruitment.

In addition to marketing lifestyle aspects of the faculty role, institutions are also recognizing the need to market their communities to potential faculty members and their families. Promotion of the community and the surrounding area, emphasizing amenities and outdoor recreational opportunities available in the region, is seen as a means of engaging spouses and families as well as applicants.

It was also suggested that the northern colleges need to develop stronger institutional brands, to ensure that potential applicants have a better sense of these institutions' unique identities and roles, as they do of larger urban institutions such as NAIT.

Alternatives to traditional recruitment

Several institutions mentioned alternatives to the regular process of recruiting full-time instructors as strategies worthy of consideration in addressing this challenge. Secondments of instructors from industry were mentioned most frequently, with several colleges having such relationships in place.

While secondments provide additional faculty resources with costs covered by industry, a number of concerns were also raised with these arrangements, including pay differentials with full-time faculty and lack of involvement of seconded instructors in program development and management. In this regard, it was suggested that secondments may result in increased demands on full-time faculty in these non-instructional areas.

Another alternative being considered by at least one college is the hiring of instructors on contract to teach for shorter time periods (e.g. 8 week blocks). It was observed that the institution needs to consider the varied implications of such an arrangement, as many current faculty may prefer contract arrangements which could provide greater flexibility of work over the course of the year.

From this perspective, it was suggested that contracting may be an "all or nothing" proposition, with significant impact on the non-instructional aspects of faculty work, such as curriculum development.

Institutional culture and support services

The often low ranking of trades instructors on faculty salary grids reflects a broader cultural issue identified by a number of college officials – the perception that industry and trades programs and instructors are not as highly valued within post-secondary institutions as academic programs and faculty with graduate degrees. This situation can lead to a sense of being less valued than other faculty members, which can in turn have a negative impact on retention.

One suggested approach to address this issue was to implement program-specific recruitment practices for industry and trades programs, including advertising that focuses on the specific credentials sought and avoids language such as "degree preferred", and hiring panels made up more of people from the program area who can relate more effectively with the applicants.

A similar need was identified in regard to initial and ongoing professional development. Instructional skills training specifically focussed on trades and industrial programs would enable attention to be paid to the differences in culture, lifestyle and the nature of work between industry and the post-

secondary environment, as well as instructional techniques and approaches specific to industry-related programs which emphasize hands-on practical application of skills.

Several institutions identified a program-specific issue related to the power engineering program. It was suggested that the curriculum be reviewed to assess which courses need to be taught by instructors with senior-level power engineering certification and which can be taught by instructors with other qualifications (e.g. mathematics, electrical). This could provide greater staffing flexibility in this high-demand program.

Program faculty

The survey of faculty members in the five program areas represented a major component of the project. As noted in the methodology section of this report, the survey instrument was developed based on issues raised in the consultation sessions with college administrators.

The program chairs and senior faculty members who took part in these discussions provided significant insights into issues of concern to faculty members, which informed the development of the survey instrument.

The overall response rate for the survey was 80 per cent, with institutional response rates ranging from 61 per cent to 100 per cent. These rates, and the overall consistency of responses, suggest that the survey results represent with reasonable accuracy the perspectives of faculty at the four colleges.

Four of the five program areas had response rates above 65 percent; only the crane operator program had a lower rate (33 per cent). However, since almost all project findings and recommendations apply across all program areas, the low response rate for one program should not be seen as having any significant impact.

In terms of teaching experience, 64 per cent of respondents reported being in an instructional position for six years or more (34 per cent for over ten years), while 24 per cent were relatively new to teaching (under two years).

The faculty survey focused on three main topics:

- Key factors in instructors' decision to accept and stay in their teaching positions.
- Identification of the major challenges facing northern colleges in attracting and retaining faculty in these programs.
- Suggestions for strategies that could be help to address these challenges, including possible roles for industry and governments as well as the institutions.

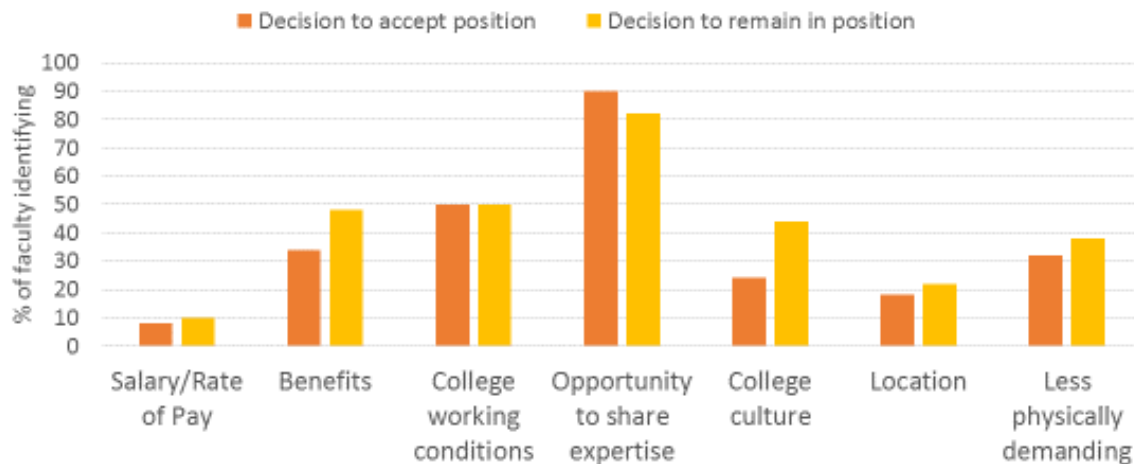
Highlights of the survey findings are presented below, while a complete summary of the survey results is provided in Appendix A.

Factors in recruitment

The top five factors identified by faculty as influencing their decision to accept their current teaching position were as follows: (Respondents could identify more than one factor)

1. Opportunity to teach/share expertise (90%)
2. Working conditions at college vs. industry (50%)
3. Benefits (vacation, pension, etc.) (34%)
4. Less physically demanding position (32%)
5. College culture and atmosphere (24%)

Key factors in attracting and retaining faculty



Salary levels and opportunities for overload/extra pay were mentioned by only 10 per cent of respondents in total. Other factors mentioned included injuries which preclude work in industry, nearing retirement and opportunities to advance their education.

Factors in retention

The top five factors identified by faculty as influencing their decision to remain in their current teaching position were the same as those identified above, but in a slightly different order.

1. Opportunity to teach/share expertise (82%)
2. Working conditions at college vs. industry (50%)
3. Benefits (vacation, pension, etc.) (48%)
4. College culture and atmosphere (44%)
5. Less physically demanding position (38%)

Again, salary levels and opportunities for overload/extra pay were mentioned by fewer respondents (18 per cent), but this factor appears to rise somewhat in importance with time in the institution. It is also worth noting that the importance of college culture and atmosphere rose by 20 per cent as a retention factor.

Other factors mentioned as influencing retention included opportunities for input into curriculum and lab development and overall job satisfaction, including positive feedback from students and graduates. With the exception of benefits, all of these factors are largely non-monetary in nature.

Challenges in attracting and retaining faculty

The issues most frequently identified by faculty respondents were as follows:

1. Salary levels/rates of pay (84%)
2. Cost/availability of housing (50%)
3. Location of institution (40%)
4. Pressures of teaching overload (32%)
5. Adapting to life in a northern community (32%)
6. Differing requirements and expectations of teaching compared to industry (30%)
7. Challenges of adapting to a college culture (26%)

Other issues mentioned included the perceived lack of respect for trades education and qualifications, poor communication of both the rewards and challenges of college teaching, “culture shock”, different organizational values relative to industry and the length of probationary appointments. In general, these factors closely match those identified by other stakeholder groups.

Options to address the challenge

For colleges

Not surprisingly, the solutions and strategies suggested by faculty respondents align closely with the major challenges they identified. These included (not in priority order):

- Salary and other financial incentives (e.g. “signing bonuses”)
- Housing assistance, particularly during the first two to three years while on probation
- Reduction in probation periods for new faculty to improve their sense of job security
- Enhancing the recognition of trades qualifications and expertise and the overall status of trades programming within institutions
- Equalization of trades faculty workloads/contact hours with those in other programs
- Increased opportunities for professional development; greater mentoring and support for new instructors
- Greater emphasis on the team spirit and lifestyle associated with working at an educational institution
- Improve hiring and orientation processes to ensure that new instructors can meet job expectations

For industry

Many respondents saw little or no role for industry in resolving the challenges of faculty recruitment and retention, due in part to the view that industry is in a competitive position for those with expertise in the same trades and occupations.

However, a number of faculty did make suggestions for possible contributions by industry, including:

- Secondment of experienced employees to teaching positions, as well as provision of early retirement incentives and incentives for injured workers to teach, as alternatives to retirement or long-term disability.

It should be noted, however, that some respondents identified concerns with industry secondments, both in regard to the pay differential with full-time (FT) faculty, and the workload left to FT faculty as seconded instructors are less likely to be involved in curriculum development and other aspects of program management. Short-term exchanges were seen as an option, to enable industry employees to explore teaching and current instructors to reacquaint themselves with current industry practices and equipment.

- Financial contributions by industry to subsidize instructor salaries or accommodation.

For government

As with industry, many faculty respondents identified little or no role for governments in this area. Of those who did suggest possible contributions by government, the issues most commonly identified were increased housing assistance and coordination and facilitation of discussions between institutions and industry to identify creative solutions to address the problem.

Industry Contacts

In addition to input from college administrators and faculty, representatives of a number of local industries were contacted to obtain their perspectives on this matter, including roles industry might play in addressing faculty shortages.

While it proved more difficult than expected to get industry representatives to respond to these inquiries, representatives of a number of companies and industry groups did agree to participate in the study: Cenovus Energy, Diashowa-Marubeni International, MEG Energy, Stat Oil, and the Alberta Boiler Safety Association (the certifying body for power engineers).

The input from these industry representatives is summarized below:

Secondment of instructors

Several industry contacts spoke directly to the issue of faculty secondments, as their firms have such arrangements in place with one of the colleges involved in the study. In both cases, these secondments are in the power engineering program.

One firm identified a number of benefits that it derives from the arrangement, including the ability to “cherry pick” the best students from the program to fill job openings, including summer employment positions, with program graduates.

One secondment involves an instructor from the firm’s training team, who by virtue of this position is already skilled in course and program delivery, instructional techniques and curriculum development. This arrangement provides stability and regular hours of work for the individual, and the relationship enables the company to communicate industry training needs to the college. Both of these contacts also identified other options for industry contribution, including donation of program equipment and costly operating supplies (such as welding rod), and providing virtual tours of plants as field trip components of programs.

On the other hand, industry contacts also observed that secondments are not an easy or universal solution to the challenge of faculty shortages, as industry is short of workers in these areas.

Secondments can also be problematic if they are not long-term (i.e. multi-year) arrangements, due to lack of continuity and the learning curve necessary to adapt to an instructional role. These contacts also emphasized the critical importance of arranging the right “fit” for a successful secondment, since the individual requires a combination of strong industry experience, teaching ability and the capacity to adapt to a different organizational environment.

Focus on lifestyle

Several industry representatives commented on the need for institutions to focus on the lifestyle benefits of working in education as part of their efforts to recruit faculty from industry, since they cannot compete with industry salary levels. More regular work hours, lack of shift work, more vacation time and greater work-life balance were among the benefits mentioned.

Several also stressed the importance of focussing recruitment efforts on senior tradespeople nearing retirement. It was suggested that approaches could be made to larger companies in particular, offering

teaching opportunities as a transition option for both older workers and injured workers, for whom such an option would be far better than long-term disability. It was noted that these faculty members would also be good ambassadors for their industries.

Other suggestions related to easing the transition from industry to a teaching role included the concept of industry granting short-term leaves to employees who may be interested in teaching to job-shadow an instructor. This would enable them to become oriented to the role and its challenges, with the option of returning to their industry position if the “test period” did not work out. The possibility of job sharing an instructional position between two senior workers was also mentioned.

Recruit locally

Industries face similar challenges to those of colleges in attracting people to remote northern communities. Several industry contacts suggested that they have found it more profitable to focus their recruitment efforts on local populations and local communities, in order to minimize relocation costs, adjustment problems, housing issues, etc. A representative of one large firm indicated that 80 per cent of its employees are drawn from the region.

Industry support for faculty supplements

Not all companies are large enough to be able to consider seconding employees to teaching positions, but representatives of some smaller firms suggested that industries could provide funding for faculty salary supplements as a means of improving faculty retention. Some arrangements of this type already exist. It was suggested that governments could encourage this type of support by providing focussed tax incentives or credits.

Government role

The potential contribution of government most commonly mentioned by industry representatives was a coordinating role in facilitating and encouraging industry collaboration with institutions.

Other options

A number of other suggestions were made by industry contacts that cannot be easily categorized, including the following:

- The possibility of institutions offering retention bonuses and/or monetary incentives for high performance (it was noted that this is a common practice in industry)
- The need to review standards for instructors in power engineering programs in particular, to identify courses that can be taught by instructors with other specialities. It was noted that the Alberta Boiler Safety Association encourages such a mix of specialties in program instruction.
- The need to provide specialized instructional training for tradespeople in recognition of the differing requirements of these programs and the educational backgrounds of new instructors in these areas.
- An idea for future research was also advanced, with the suggestion that institutions, in collaboration with industry, approach experienced employees to get direct input on “what would it take to interest you in becoming an instructor?”

Other Post-Secondary Institutions

Deans and program coordinators from four institutions in Alberta and British Columbia agreed to provide input into this study. These institutions (Medicine Hat College; North Island College – Campbell River, BC; Red Deer College and Thompson Rivers University – Kamloops, BC) offer similar programming in rural areas.

They were approached on the assumption that they may have experienced similar problems with faculty recruitment and retention, and may have adopted or considered strategies worthy of consideration by the partners in this study. While community isolation is not as large a problem for most of these institutions, input received suggests that they confront many of the other challenges facing the northern colleges. The input from these institutions is summarized below.

Salary strategies

It was generally acknowledged that salary and compensation is the key problem, with salary differentials of 40 to 50 per cent as compared to industry positions.

Several institutions pointed to the need to adjust their faculty salary grid to better recognize and reward industry and trades certifications. Market supplements were seen as another way to address this issue, but it was noted that this approach can create problems with other faculty.

Some institutions have tried increasing the daily teaching load as a means of increasing instructor pay scales, but noted that this can lead both to instructor burnout and problems for students if the instructional day becomes too long.

Industry was seen by some as having a role in addressing this problem through funding market supplements, reflecting their contribution to the issue in terms of higher pay scales. It was also pointed out that comparison of compensation levels needs to take into account factors such as additional vacation times, and that such “apples to apples” analysis reduces the actual compensation differential.

Recruitment strategies

Officials from these institutions identified many of the same issues and strategies as their counterparts in northern Alberta colleges. These strategies include the following:

- Focus on part-time positions due to the difficulty of attracting full-time faculty. However, the problems associated with this approach are similar to those identified with secondments – lack of involvement in curriculum development and other program roles, since part-time instructors are only paid for teaching time.
- Focus recruitment efforts on older workers nearing the end of their careers, who may be looking for less physically demanding jobs.
- Emphasize the lifestyle opportunities of college teaching (professional development, working conditions, community, stability, vacation time, etc.), thereby appealing to needs other than financial.

- Recruit locally, in collaboration with local industries, to avoid the higher turnover rate among external hires.
- Provide orientation and instructional skills training specifically tailored to trades and industry programs.
- Examine the potential of instructor sharing with another institution in high-demand areas.

Institutional issues

These institutional representatives identified a number of issues relating to their institutional cultures and organizational practices, again similar in many respects to those noted by the four participating colleges:

- Review the issue of higher contact hours for trades instructors, which is seen as reflecting a hierarchy among groups of faculty. It was noted, however, that addressing this issue through a review of workloads would serve to exacerbate the faculty shortage, as more instructors would be needed.
- Address issues such as probationary periods relative to industry.
- Provide greater flexibility in collective agreements in areas such as the provision of benefits to short-term sessional instructors, to facilitate creative staffing solutions.
- Offer market supplements to instructors in high-demand programs, with the supplements supported by industry contributions.
- Examine mechanisms to provide greater job security in programs where the “boom-bust” cycle of apprenticeship enrolments leads to high turnover and difficulty recruiting in close-knit communities.

An “environment of inclusion”

One of the more interesting suggestions stemming from this group was that in order to be successful in trades and industrial programming, institutions need to create what was termed an “environment of inclusion”, in which faculty in these programs feel genuinely valued and respected for their knowledge, qualifications and contributions.

It was suggested that special efforts be made to build a cross-institutional community of trades and industry instructors, including events to celebrate achievements, receive industry updates and discuss common issues and problems. A number of other suggestions relate closely to this concept:

- Begin the process at the hiring stage, by ensuring that interview panels are composed primarily of industry and trades faculty. It was suggested that such an approach would build community, demonstrate understanding of the unique aspects of these industries and programs, and provide more effective support for new instructors.

- Establish mentorship relationships through which experienced instructors are partnered with new faculty in similar programs to help them “learn the ropes” and provide guidance on lesson planning, advice on problems, etc.

It was even suggested that these relationships could be cross-institutional (via technology), reflecting the concept of building a broader community of industry and trades faculty. It was also noted, however, that mentorship relationships can be overdone, leading to dependency, and that care needs to be taken to avoid this pitfall.

Recommendations

The project findings outlined in the previous section reflect a degree of commonality and consistency not always found between the positions of administrators and faculty, or between institutions and industry. The extent of conformity of perspectives and the duplication of suggested strategies across the response groups make the articulation of recommendations almost automatic.

It must be emphasized, however, that the proposed strategies should be considered as a menu of options rather than taken as a whole. No institution could be expected to undertake initiatives in all of these areas, and some of the proposed strategies represent “either-or” choices rather than complementary approaches.

It should also be noted that many if not all of these strategies have already been undertaken by one or more of the colleges that participated in this project, and that considerable knowledge and experience regarding their benefits and pitfalls therefore exists.

Institutions are encouraged to consider which combination of the strategies proposed best fits their unique situation and circumstances, as well as which can be undertaken more easily to generate “quick wins” versus those that will require more time and effort. It seems likely that a judicious combination of approaches will have a greater impact than any individual strategy, but these combinations are almost certain to be different for each institution.

The recommendations have been categorized to align with the grouping of factors identified early in the Findings section as being key contributors to the problem of faculty recruitment and retention. In order to avoid excessive repetition of information outlined in the findings section, users of this report are encouraged to refer back to that section for additional details concerning the proposed strategies.

Economic strategies

In view of the broad consensus, which was well understood before this study was initiated, that salary differentials are the primary factor contributing to faculty shortages, it makes sense to address this issue first. Among the strategies that institutions are invited to consider are the following:

Review of faculty salary grids

The common tendency for faculty salary grids to assign the lowest value to the types of industrial and trades certifications required to teach in these programs severely limits institutional capacity to address monetary concerns even within their current pay structures.

Several institutions have already made adjustments to their faculty salary scales to facilitate higher rates of pay for instructors with these certifications. Such changes, while not simple as they generally involve the collective bargaining process, can serve to address both the issue of salary differentials and the value placed on industry and trades programs within institutional cultures.

Market supplements

The provision of market supplements above the pay grid to recognize areas in which faculty can command far higher salaries working in their fields is not foreign to post-secondary education. While such supplements can create issues of equity across faculty groups, they can be seen as a reflection of economic realities.

In the case of the programs and industries reviewed in this study, it is suggested that approaches be made to industry to support such market supplements. As both college and industry representatives observed, industries should recognize that such contributions would constitute an investment in meeting their long-term manpower requirements.

Housing assistance

The faculty survey clearly demonstrated that the cost and availability of housing in northern communities is a significant factor in restricting the ability of institutions to recruit faculty. (This issue is of course not limited to faculty in these specific programs.)

Institutions with staff housing already provide support for faculty in high-demand programs, sometimes involving free accommodations for the first year and a subsidy into the second year. Arrangements such as these can help to address a major concern for new instructors and their families, which is exacerbated by lengthy probation periods (by industry standards).

While on a probationary appointment, faculty members and their families feel especially vulnerable in regard to housing expenses, and some reported difficulty even in obtaining a mortgage. Industry financial contributions could also be sought to support this type of housing assistance.

Focus on lifestyle

Another approach to addressing pay differentials is to focus recruitment efforts on lifestyle instead of money. The non-monetary benefits of working in a post-secondary institution, including regular hours, longer periods of vacation, less physically-demanding working conditions and overall work/life balance are attractive to many people, and should be strongly emphasized in recruitment initiatives.

Both institutions and industry contacts suggested a particular focus on senior workers in industry, who may be seeking less demanding work as they near retirement, and on injured workers for whom teaching may offer an attractive alternative to disability benefits.

In both cases, these people could bring a wealth of experience to the classroom setting. The fact that many workers with young children may also be seeking a work setting that enables them to spend more time with family should also not be discounted.

Social strategies

The perceived isolation and sometimes negative image of northern communities pose significant challenge to faculty recruitment. Possible strategies to address these issues include:

Focus on local recruitment

Both industry and institutional contacts reported greater success in recruiting and retaining employees from the local area than those who have had to relocate and make significant social adjustments to take teaching positions.

While it may not be possible to recruit solely from a local base, an increased focus on local recruitment initiatives, in partnership with regional industries and local governments, appears to yield a better long-term return on investment.

“Sell” the community as well as the college

Institutions increasingly recognize the importance of marketing not only the institution but the community to prospective faculty members and their families. The latter is particularly important in light of the observation that in many cases a spouse’s reluctance to relocate is a major factor in job offers being rejected.

In the case of the northern communities in question, it is suggested that particular focus on those interested in outdoor pursuits and the other positive attributes of these communities. Tours and other types of orientation to the community were also seen as necessary to counter the perhaps inaccurate perception some may hold regarding life in northern Alberta, including major communities like Grande Prairie and Fort McMurray.

It is suggested that colleges work in collaboration with local governments, business and community agencies (e.g. chambers of commerce) to enhance the effectiveness of their efforts to promote their communities as desirable locations for instructors and their families to live and work.

Organizational culture strategies

Difficulties in adapting to the culture of a post-secondary institution, and to the expectations and requirements of the teaching profession, were identified by faculty members as among the more significant impediments to retention. On the other hand, the positive aspects of the college environment and the job satisfaction associated with the opportunity to teach and share one’s expertise were listed as key contributors to retention. Strategies that recognize and build on these realities could include:

Address status issues

The relatively low status of industrial and trades programs, faculty and students in the unofficial “pecking order” of post-secondary institutions was a common theme in the comments of college administrators, faculty and contacts from other institutions.

Specific issues such as salary grid placement are one aspect of this phenomenon, but the general sense of lack of respect and value is more complex and difficult to address. It is not surprising that employees in any field consider other career options if they feel that their contributions are inadequately

acknowledged or valued. As with many such issues of perception, necessary first steps include naming and acknowledging that a problem exists, and engaging those most involved and affected in open discussion of the nature of the problem and possible solution. The effort to address the issue may in and of itself serve to improve the situation, and enhance the positive retention factors of job satisfaction and opportunities to contribute valuable expertise.

Program-specific hiring, orientation and development

The importance of developing customized approaches to the recruitment and development of faculty in these program areas was emphasized by all groups participating in this study.

Initiatives in this regard would demonstrate recognition of the differing backgrounds, experience, expectations and concerns of people in these fields in terms of taking on a teaching role. They could include:

- Initiatives in collaboration with local industry to “sell” the idea of teaching as a viable career option to current workers, particularly those with longer experience in their fields. This could involve further research with workers in these fields to determine what actions institutions could take to make teaching a more attractive option to them.
- Job shadowing or other opportunities for potential instructors to explore the teaching option in a safe manner (in cooperation with their employers).
- Program-specific hiring processes and panels for trades and industrial instructors.
- Specialized instructional skills training for new faculty in these program areas, in recognition of the different experiences and educational background that they bring to their positions.
- Establishment of mentorship programs matching new and experienced instructors (across institutions if necessary) to provide ongoing support and assistance in making the transition to the teaching role and the college environment.

Review institutional policies and practices

While change in these areas may not always be possible or practical, the findings of this study suggest that it may be worthwhile for colleges to review and reconsider their policies and practices in areas such as:

- The length of probationary periods for new faculty
- Provision of benefits for part-time/sessional instructors
- The possibility of offering some sort of “signing bonus” or retention incentives
- The specific qualifications required to teach power engineering courses

The latter recommendation was raised by both institutions and industry as a means of achieving greater staffing flexibility, and perhaps costs savings, in this high-demand program.

Foster an “environment of inclusion”

This specific phrase and concept were proposed by a dean in one of the institutions approached for external input, but the suggestion aligns well with comments received from all response groups. It offers a practical mechanism by which to pursue the cultural change with respect to trades and industry programs discussed above.

Efforts to foster a community of instructors in these programs, both within and across institutions, would enhance opportunities for informal mentoring and support, professional development and recognition that could significantly improve both retention and recruitment.

By engaging instructors in these programs in creating such a network, a clear message would be communicated as to their value and place within each college, and across the broader institutional and industry community, with the potential for significant long-term impacts.

Staffing alternatives

Successful adoption of some combination of the strategies suggested above may result in significant improvements in faculty recruitment and retention within existing faculty frameworks. It is likely, however, that alternative approaches to staffing will still be required to address faculty shortages in some of these programs.

While a range of concerns have been identified with the impact of these strategies on current faculty, input from all response groups also suggested that these strategies are either currently successful or at least worthy of serious consideration.

Industry secondments

Several examples of successful secondment arrangements were identified by both sponsoring companies and institutions. The secondment of staff from industry training teams appears particularly attractive, as it addresses concerns regarding the teaching aptitude and expertise of seconded instructors.

The impact of secondment arrangements on other program faculty requires monitoring given the concerns raised, but the obvious benefits to the institutions in terms of staff and budget may make such arrangements a valuable component of a broader staffing strategy.

Contract hiring

At least one participating college indicated that it has given serious consideration to hiring instructors in these programs on contract rather than as full-time faculty, and comments from the faculty survey suggest that this would be an attractive option for some.

The benefits for both parties in terms of increased flexibility are obvious, but the potential impact of this approach on program viability over the longer term would require careful review, as contract instructors would not likely be involved in such things as curriculum development, program administration, etc.

In addition, as an official of the college in question commented, this may be an “all or nothing” proposition, as existing faculty may seek the same arrangement if new instructors are engaged on contract, in order to enjoy the same degree of flexibility.

Industry contributions

A range of possible contributions by industry to address the challenges of faculty recruitment and retention have already been identified above. To avoid undue repetition, these will be listed briefly, along with several additional ways in which industry could support these program areas.

Colleges already have in place many ties with local industries through which such contributions could be facilitated, and others could no doubt be developed.

- Provision of seconded instructors
- Financial contributions to support market supplements or assistance with housing
- Contributions in kind (equipment, supplies, etc.) which could free up institutional resources to address staffing issues
- Collaboration in such areas as “virtual field” trips to enhance program curricula

Government role

Input from both institutional and industry respondents suggested that the Government of Alberta could make a significant contribution to the addressing the faculty recruitment and retention challenges faced by the northern colleges by creating opportunities for discussion and collaboration among institutions and industry to identify and implement collaborative solutions. The Northern Alberta Development Council may be the agency best positioned to take on the role of coordinating and facilitating such discussions.

Conclusion: Communication and Collaboration

While each of the northern colleges will likely identify a different set of strategies to address these challenges that are most appropriate to their particular circumstances, it seems clear that there would be a great deal to be gained by enhancing the degree of communication and collaboration among the institutions in the area of industrial and trades programs on an ongoing basis.

Some of the specific strategies outlined in this report, such as the sharing of instructors between institutions, obviously require a collaborative approach. However, it is suggested that many of the broader issues identified through this study, such as pursuing greater support from industry for such things as market supplements and housing support for faculty in industry-related programs, would also be addressed more effectively through concerted effort involving all four institutions speaking together for trades and industry education in northern Alberta.

Numerous precedents exist for such collaboration. Groups including the senior academic officers, senior business officers and senior student services officers of Alberta colleges functioned for many years under the auspices of the Association of Alberta Colleges and Technical Institutes (AACTI). While AACTI itself no longer exists (its role having been subsumed into the broader Alberta Council of Post-Secondary Education), these groups have continued to meet in recognition of the benefits of system communication and collaboration.

The existence of similar groups at other levels within post-secondary institutions, including deans of business, institutional research directors and chief information officers/information technology directors (the Alberta Association in Higher Education for Information Technology – AAHEIT) serves to demonstrate the benefits of collaboration in a broad range of areas.

It is proposed that the four colleges give serious consideration to establishing a formal mechanism for ongoing communication and collaboration among the deans/directors responsible for trades and industry programs.

This group could also involve the Northern Alberta Development Council, in a model similar to that of the Northern Labour Market Information Clearinghouse, through which these institutions work jointly in the areas of labour force and economic information to inform program development and adaptation.

This group could play a major role in fostering the “environment of inclusion” identified in the recommendations section above (pages 18-19), and could also involve industry contacts as and when appropriate to expand the collaborative process to include key industry partners.





The NADC could play a particular role in facilitating the involvement of industry partners, and perhaps other government departments and agencies when appropriate, in the deliberations and activities of this body.

While enhancing communication and collaboration will not in itself resolve the challenges and problems that were the impetus for this study, it can provide a framework within which these issues can be addressed in partnership among institutions, government and industry.






Appendix A

Faculty Survey Summary





1. At which college do you teach?

Response	Chart	Percentage	Count
Grande Prairie Regional College		43.1%	22
Keyano College		27.5%	14
Northern Lakes College		13.7%	7
Portage College		15.7%	8
Total Responses			51










2. In which program do you teach?

Response	Chart	Percentage	Count
Crane Operator/Boom Truck		2.0%	1
Heavy Duty Technician		30.0%	15
Power Engineering		30.0%	15
Steamfitter/Pipefitter		8.0%	4
Welding		30.0%	15
Total Responses			50

3. How long have you been an instructor in an industrial or trades program?

Response	Chart	Percentage	Count
Less than two years		24.0%	12
2 to 5 years		12.0%	6
6 to 10 years		30.0%	15
More than 10 years		34.0%	17
Total Responses			50

4. Key factors in decision to accept current teaching position










Response	Chart	Percentage	Count
Salary level/rate of pay		8.0%	4
Opportunities for overload/extra pay		2.0%	1
Benefits (vacation, pension, etc.)		34.0%	17
Working conditions at a college vs. in industry		50.0%	25
Opportunity to teach/share your expertise with others		90.0%	45
College culture and atmosphere		24.0%	12
Location of institution		18.0%	9
Less physically demanding position		32.0%	16
Other (please describe below)		18.0%	9
Total Responses			50

Other factors in decision to accept current position.

Most responses mirrored the response categories above. Other factors identified included the following:

- Unable to work in the field due to injury; made teaching a more viable option
- Retired or nearing the end of career; teaching less physically demanding
- Opportunity to advance education, develop new skills
- Ability to work from home (distance delivery program)
- Colleagues suggested that the person had an aptitude for teaching
- Interviewers demonstrated genuine interest in the individual, and sincerity in regarding the values of the institution

5. Key factors in decision to stay in current teaching position










Response	Chart	Percentage	Count
Salary level/rate of pay		10.0%	5
Opportunities for overload/extra pay		8.0%	4
Benefits (vacation, pension, etc.)		48.0%	24
Working conditions at a college vs. in industry		50.0%	25
Opportunity to teach/share your expertise with others		82.0%	41
College culture and atmosphere		44.0%	22
Location of institution		22.0%	11
Less physically demanding position		38.0%	19
Other (please specify below)		10.0%	5
Total Responses			50

Other factors in decision to stay in current position.

Other factors identified, beyond repetition of those listed above, included the following:

- Opportunity to contribute expertise to curriculum development in the program
- Opportunity to work from home (distance delivery course)
- Job satisfaction; positive feedback from students and graduates
- Teamwork, cooperation and positive relationships with colleagues
- Opportunities to be heard and make a difference in one's working environment

6. Major challenges in attracting and retaining instructors

Response	Chart	Percentage	Count
Salary levels/rate of pay		84.0%	42
Pressures of teaching overload		32.0%	16
Location of institution		40.0%	20
Cost/availability of housing in your community		50.0%	25
Lack of employment opportunities for spouse/partner		24.0%	12
Adapting to life in a northern community (for instructors, spouses and families)		32.0%	16
Differing requirements and expectations of teaching and industry		30.0%	15
Challenges of adapting to a college culture		26.0%	13
Other (please specify below)		20.0%	10
Total Responses			50

Other challenges to attracting and retaining instructors.

Most of the additional challenges identified by respondents related to issues of institutional management and culture, including the following:

- The “huge separation” between instructors and management; top-down administrative style with little consultation with faculty
- The perceived lack of respect for trades programs, faculty and students relative to academic programs
- Lengthy probationary period for faculty in comparison to industry, which was described as delaying job security and even as “hazing” of new employees
- Poor communication of the positive side of college teaching to potential new instructors during the advertising, recruitment, and interview process.
- Issues of “culture shock” in moving from industry to a post-secondary institution, including a change of work focus from production to communication and transmission of skills, as well as differing expectations, values and even vocabulary.
- Concern was expressed that new instructors are not always aware of the support available in regard to instructional skills development, lesson planning, classroom management, etc. It was observed that “it sometimes becomes easier to go back to industry” than to deal with these issues.
- It was suggested that clearer communication of the realities of faculty workload and the teaching experience would assist new instructors in surviving the first year or two of their teaching role.

7. Most significant factors for recruiting and retaining instructors

Factors most commonly identified were as follows:

- Salary levels relative to industry
- Housing costs and availability in northern communities
- Isolation of northern communities; limited opportunities and activities for spouses and children
- Perceived lack of support and importance for trades programs within the institutions
- Demands of the teaching role
- Cultural change and different expectations; “going from rough and rugged to clean and conservative”

8. Suggested college strategies to improve instructor recruitment and retention

Suggestions most commonly raised in this regard included:

- Salary and other financial incentives (e.g. “signing bonuses”)
- Housing assistance, particularly during the first 2-3 years while on probation
- Reduction in the probation period for new faculty to improve sense of job security (some mentioned the difficulty of obtaining a mortgage while on a probationary appointment)
- Recognition of trades qualifications & expertise relative to academic faculty; overall status of trades programming in the institutional “pecking order” (“Make apprentices matter as much as academic students.”)
- Equalization of trades faculty workload/contact hours with that in other programs
- Increased opportunities for professional development; greater mentoring and support for new instructors
- Greater emphasis on the team spirit and life style associated with working at an educational institution
- Study the factors behind instructor turnover in high-demand programs to inform the development of retention strategies
- Improve hiring and orientation processes to ensure that new instructors can meet job expectations.

9. Role for industry in helping colleges to improve instructor recruitment and retention

- Many respondents saw little or no role for industry in this regard.
- Several suggested that since many industries are experiencing labour shortages in the same areas, they may be unwilling to cooperate in seconding experienced employees to teach in these programs.
- Several respondents identified industry secondments, or a focus on relationships with industry to provide early retirement incentives or opportunities for injured workers to teach, as options for faculty recruitment.

- Some respondents identified concerns with industry secondments, both in regard to the pay differential with full-time faculty, and the workload left to FT faculty as seconded instructors are less likely to be involved in curriculum development and other aspects of program management. However, short-term faculty exchanges were seen as a positive option, to enable industry employees to explore the teaching option and current instructors to reacquaint themselves with current industry practices and equipment. Another option proposed was that industry supply instructors for short-term positions (e.g. 2-week preparatory course).
- The possibility of industry providing financial assistance to subsidize instructor salaries or accommodation was mentioned by several respondents.
- Several respondents suggested that industries could and should encourage suitable candidates to consider a role in college instruction as a long-term investment in the future of the industry. One suggested that industries could enable those with an interest in teaching to explore this option with the possibility of returning to their original position as a “safety net.”

10. Role for government in helping colleges to improve instructor recruitment and retention

Many respondents identified little or no role for governments in addressing the issue of faculty recruitment and retention in these program areas. Of those who did suggest possible contributions by government, the issues most commonly identified were as follows:

- Housing assistance, possibly through increases in the Northern Living Allowance
- Coordination and facilitation of discussions between institutions and industry to identify creative solutions to address the problems of faculty recruitment and retention in high demand industrial and trades programs

Appendix B

NADC Project: Recruitment and Retention of Instructors in High-Demand Industrial Programs

Faculty Survey

This survey is being conducted as part of a project commissioned by the Northern Alberta Development Council in partnership with Grande Prairie Regional College, Keyano College, Northern Lakes College and Portage College. The purpose of the project is to identify strategies to address ongoing challenges faced by the four northern colleges in recruiting and retaining instructors in high-demand industrial programs such as the one in which you teach. Your input is vital to the success of this project. Participation in the survey is entirely voluntary, and your responses will be treated with complete confidentiality. Your willingness to provide input to this project is greatly appreciated. The survey should take 10 minutes or less to complete.

Directions: These questions focus on the reasons for your decision to accept and stay in your current teaching position, the factors that make it difficult to attract and retain instructors in your program area, and strategies that colleges, industry and/or governments could take to address this problem. The list of possible responses to a number of questions were developed based on interviews with college HR staff, program chairs and faculty in these program areas. If the responses listed do not apply to you, please add your own response under "Other." You will also be asked to provide suggested strategies or solutions in open-ended questions.

1. At which college do you teach?

- Grande Prairie Regional College
- Keyano College
- Northern Lakes College
- Portage College

2. In which program do you teach?

- Crane Operator/Boom Truck
- Heavy Duty Technician
- Power Engineering
- Steamfitter/Pipefitter
- Welding
- Other (please specify) _____

3. How long have you been an instructor in an industrial or trades program?

- Less than 2 years
- 2 to 5 years
- 6 to 10 years
- More than 10 years

4. What were the key factors in your original decision to accept your current teaching position?
(Check as many as applicable)
- Salary level/rate of pay
 - Opportunities for overload/extra pay
 - Benefits (vacation, pension, etc.)
 - Working conditions at a college vs. in industry
 - Opportunity to teach/share your expertise with others
 - College culture and atmosphere
 - Location of institution
 - Less physically demanding position
 - Others (please specify)
5. What have been the key factors in your decision to stay in your current teaching position?
(Check as many as applicable)
- Salary level/rate of pay
 - Opportunities for overload/extra pay
 - Benefits (vacation, pension, etc.)
 - Working conditions at a college vs. in industry
 - Opportunity to teach/share your expertise with others
 - College culture and atmosphere
 - Location of institution
 - Less physically demanding position
 - Others (please specify)
6. What do you see as the major challenges your college faces in attracting and retaining more instructors in your program? (Check as many as applicable)
- Salary levels/rate of pay
 - Pressures of teaching overload
 - Location of institution
 - Cost/availability of housing in your community
 - Lack of employment opportunities for spouse/partner
 - Adapting to life in a northern community (for instructors, spouses and families)
 - Differing requirements and expectations of teaching and industry
 - Challenges of adapting to a college culture
 - Others (please specify)
7. Which of these factors (from question 6) do you see as the most significant? (Please identify no more than three)
8. What do you think your college should/could do to improve the recruitment and retention of instructors in your program?

9. Do you see a role for industry in helping colleges to improve the recruitment and retention of instructors in your program? What might industry do to help address these challenges?
10. Do you see a role for governments (federal, provincial or local) in helping colleges to improve the recruitment and retention of instructors in your program? What might governments do to help address these challenges?
11. Do you have any other suggestions for ways to solve the problem of recruiting and retaining instructors in high-demand industrial programs?

*Thank you for taking the time to complete this survey!
Your input is greatly appreciated.*

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Appendix C

4-Year Enrolment Trends in Selected Industrial & Trades Programs

Inst.	Program	Year	FLE	Student Headcount	% Change (FLE)	% Change (HC)
GPRC	HET	2009-2010	74.226	247		
	HET	2010-2011	63.813	218		
	HET	2011-2012	55.803	197		
	HET	2012-2013	67.017	238	-9.7%	-3.6%
	Power Eng.	2009-2010	33.204	41		
	Power Eng.	2010-2011	33.297	34		
	Power Eng.	2011-2012	33.797	37		
	Power Eng.	2012-2013	39.970	44	20.4%	7.3%
	SFPF	2009-2010	6.773	22		
	SFPF	2010-2011	9.345	29		
	SFPF	2011-2012	12.549	42		
	SFPF	2012-2013	16.020	55	136.5%	150.0%
	Welding	2009-2010	31.773	107		
	Welding	2010-2011	19.758	69		
	Welding	2011-2012	25.098	85		
	Welding	2012-2013	41.118	148	29.4%	38.3%
Keyano	HET	2009-2010	77.429	270		
	HET	2010-2011	71.556	259		
	HET	2011-2012	82.350	286		
	HET	2012-2013	119.128	347	53.9%	28.5%
	Power Eng.	2009-2010	140.125	374		
	Power Eng.	2010-2011	125.781	364		
	Power Eng.	2011-2012	151.375	375		
	Power Eng.	2012-2013	177.877	520	26.9%	39.0%
	SFPF	2009-2010	17.088	62		
	SFPF	2010-2011	18.156	67		
	SFPF	2011-2012	17.622	60		
	SFPF	2012-2013	16.821	57	-1.6%	-8.1%
	Welding	2009-2010	31.505	96		
	Welding	2010-2011	25.098	82		
	Welding	2011-2012	21.360	73		
	Welding	2012-2013	24.297	82	-22.9%	-14.6%

Inst.	Program	Year	FLE	Student Headcount	% Change (FLE)	% Change (HC)
NLC	Crane/Boom	2009-2010	12.600	63		
	Crane/Boom	2010-2011	13.360	80		
	Crane/Boom	2011-2012	10.187	61		
	Crane/Boom	2012-2013	14.028	84	11.3%	33.3%
	Power Eng.	2009-2010	34.394	72		
	Power Eng.	2010-2011	76.088	84		
	Power Eng.	2011-2012	161.687	197		
	Power Eng.	2012-2013	212.047	290	516.5%	302.8%
	Welding	2009-2010	6.982	24		
	Welding	2010-2011	6.675	20		
	Welding	2011-2012	8.544	27		
	Welding	2012-2013	14.952	51	114.2%	112.5%
PC	Power Eng.	2009-2010	111.748	81		
	Power Eng.	2010-2011	125.674	93		
	Power Eng.	2011-2012	126.242	89		
	Power Eng.	2012-2013	139.808	97	25.1%	19.8%
	SFPF	2009-2010	8.748	30		
	SFPF	2010-2011	5.874	19		
	SFPF	2011-2012	9.345	32		
	SFPF	2012-2013	8.544	28	-2.3%	-6.7%
	Welding	2009-2010	10.947	36		
	Welding	2010-2011	6.675	22		
	Welding	2011-2012	8.010	26		
	Welding	2012-2013	14.685	51	34.1%	41.7%
All	Crane/Boom	2009-2010	12.600	63		
	Crane/Boom	2012-2013	14.028	84	11.3%	33.3%
	HET	2009-2010	151.655	517		
	HET	2012-2013	186.145	585	22.7%	13.2%
	Power Eng.	2009-2010	319.471	568		
	Power Eng.	2012-2013	569.702	951	78.3%	67.4%
	SFPF	2009-2010	32.609	114		
	SFPF	2012-2013	41.385	140	26.9%	22.8%
	Welding	2009-2010	81.207	263		
	Welding	2012-2013	95.052	332	17.0%	26.2%

Source: Learning Enrollment Reporting System Data Cubes (Alberta Innovation and Advanced Education Cognos Reporting System), March 2014

Appendix D

Alberta's Occupational Demand and Supply by Selected 4-Digit NOC-S Code

Occupation	2014	2015	2016	2017	2018	2019	2020	2021
H112 - Steamfitters, pipefitters & sprinkler system installers Cumulative Shortage	182	200	200	243	266	323	389	468
H222 - Power systems & power station operators Cumulative Shortage	3	4	5	7	9	11	14	17
H326 - Welders & related machine operators Cumulative Shortage	271	425	557	721	889	1,079	1,295	1,492
H412 - Heavy-duty equipment mechanics Cumulative Shortage	193	234	277	389	471	540	663	775
H621 - Crane Operators Cumulative Shortage	104	110	117	125	134	144	155	168

Source: Government of Alberta, *Alberta's Occupation Demand and Supply Outlook, 2011-2021*