

**TOWARDS EXCELLENCE IN LEADERSHIP AND MANAGEMENT
IN HIGHER EDUCATION: INNOVATIVE ENGAGEMENT
STRATEGIES FOR COMPETENCY BASED EDUCATION**

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ABSTRACT

Canadian Colleges have been at the forefront of competency based education and training (CBET) in the technical and vocational education and training sector for over 30 years. College of the Rockies has a record of success in partnerships at home and abroad that support workforce development for industry and community partners. The foundation of this success is its strength in competency based education. CBET measures student learning rather than time, and links learning directly to industry needs. College of the Rockies employs a competency-based approach that includes advising on industry engagement, curriculum development, pedagogy and andragogy, leadership and governance, results-based management, corporate social responsibility, and distance education. In addition to its traditional vocational and career training, the College's experience includes its extensive involvement in government funded projects, projects funded by private foundations, and industry-funded training and consultancies.

Ms. Patricia Bowron of College of the Rockies will provide a practical approach on how to engage industry and the broader community into applied competency-based learning. She will explore the approaches used by the College to support industry with job-ready graduates, and will provide an overview of best practices employed by the institution to continue to enhance its responsiveness. Innovative engagement strategies for leading and managing this CBE approach will be outlined including:

1. Training and support for corporate social responsibility efforts that include a holistic multi-stakeholder, multi-sector approach that leads to the creation of jobs and a vibrant economy;
2. Broadly based partnerships with institutions and non-governmental organizations to support non-traditional learners in various sectors;
3. Innovative practices and applied research supporting community and industry;
4. Advisory processes and initiatives to leverage industry and community relationships and resources;
5. Training of trainers, and

6. Specialized instructional delivery and simulation.

INTRODUCTION

Between now and 2024, of the occupations in Canada that are expected to face labour shortage, “almost all are high-skilled occupations” (Government of Canada, 2016). During this period in the Province of British Columbia, 935,000 job openings are expected and more than three-quarters of these openings “will require some post-secondary education and training” (Province of British Columbia, 2014). The Province of British Columbia (2014) has indicated that taking advantage of economic growth in the province means “taking steps now to re-engineer education and training in B.C.” This has involved increasingly targeting British Columbia’s investment in education and training in areas that are going to meet labour market priorities. Moreover, as B.C.’s Minister responsible for skills training has stated, “we have a responsibility to make sure we get results” (Province of British Columbia, 2014).

The primary desired result from the sizeable investment made in post-secondary education can be expressed as follows: “We need to make sure we are matching the skills we are graduating with the skills we need” (Province of British Columbia, 2014). To College of the Rockies, contributing to this result means being at the forefront of competency based education. According to Gourley (2014), competency based education is “an approach to instruction that focuses on a learner’s knowledge, skills, and abilities that they are required to perform at a level where they can demonstrate they have mastery.” College of the Rockies is a comprehensive, globally-engaged public post-secondary institution located in Canada’s Rocky Mountains and it is a leading example of how post-secondary education in Canada has embraced competency based education.

However, simply embracing competency based education is not enough to ensure that graduates have the skills that are required by a growing economy. Rather, success is achieved when one recalls that the competencies in the delivery of competency based education must be “defined by the tasks needed in the workplace” (Gourley, 2014). Moreover, as Gourley has noted, engagement is required “to define the knowledge, skills, and attitude and create the common language the groups are better able to work together on performance and training objectives to create a more competitive industry.”

This point about engagement is well understood by College of the Rockies in annually serving approximately 12,000 learners in a region of Canada that is rich in world-class all-season resorts and natural resources. The College supports a region that contains major examples of the economic changes facing Canada – and the world. The College’s success in matching skills with those required as a result of change rests not only with its

commitment to being at the forefront of competency based education, but also through its use of innovative engagement strategies. These include the following:

- training and support for corporate social responsibility efforts that lead to the creation of jobs and a vibrant economy,
- partnerships with governments, foundations and non-governmental organizations to support non-traditional learners,
- engagement on applied research to support strong and healthy communities,
- advisory processes that create mutually beneficial relationships with industry, and
- responsiveness to specific community needs and opportunities.

College of the Rockies' commitment to engagement to produce results expected from the delivery of competency based education does not end in the Rocky Mountains. Rather, as a globally minded institution, the College has applied these engagement strategies both at home and abroad. College of the Rockies is both committed to the communities that it is mandated to serve and has a deep sense of responsibility to share its expertise with an interconnected world. The College is proud to have produced results both at home and abroad.

TRAINING AND SUPPORT FOR CORPORATE SOCIAL RESPONSIBILITY EFFORTS THAT LEAD TO THE CREATION OF JOBS AND A VIBRANT ECONOMY

Both in its home region and around the world, College of the Rockies has engaged industry to support the fulfilment of corporate social responsibility (CSR) mandates. According to the International Institute for Sustainable Development (IISD) (2013), "CSR is underpinned by the idea that corporations can no longer act as isolated economic entities operating in detachment from broader society" with key areas of concern being "environmental protection and the wellbeing of employees, the community and civil society in general, both now and in the future." The IISD has noted that for CSR "to move from theory to concrete action, many obstacles need to be overcome" and a way to overcome these is the "increasing recognition of the importance of public-private partnerships in CSR."

Partnering with industry is exactly the role that College of the Rockies has played at home, where the forest industry is a key contributor to the economy and is "important to the social fabric and economic well-being of many communities" (MNP LLP, 2015). In 2015, Canfor, one of the world's largest producers of lumber, pulp and paper, announced the permanent closure of its sawmill in Canal Flats, a small village that is served by College of the Rockies. This followed an announcement earlier in the year that had already cut the workforce in half (Grant, 2015). The loss of 160 jobs along

with the largest employer in a community of only 700 residents was a huge shock (Macdonald-Meisner, 2015). This point was recognized by Canfor's President, who stated that "this decision will be difficult for our employees and the community of Canal Flats, and we are committed to doing what we can to ease that transition" (Canfor, 2015).

In an effort to support both the community and affected individuals, College of the Rockies teamed up with Canfor, the Village of Canal Flats, B.C.'s Ministry of Advanced Education and WorkBC to create a Canal Flats Worker Transition Team. The College surveyed and assessed the interests of the workers and found a sizeable appetite for individuals to obtain industry demanded skills that are provided by the College's Haul Truck Operator/Heavy Equipment Hybrid Program. In response, the College delivered two six-week programs for the former Canfor workers. This effort was widely appreciated, including by the Government Minister and Member of the Legislative Assembly representing the region where the College headquarters are located, who stated that "training provided through College of the Rockies will provide a strong foundation to build new careers" and will enable those concerned to "find their fit in our diverse, strong and growing economy" (The Honourable Bill Bennett, as cited in College of the Rockies, 2015, 25 May).

Applying College of the Rockies' expertise to provide the skills required by industry in support of the fulfilment of a CSR mandate is also what the College has delivered on in places thousands of kilometres away from the Rocky Mountains. Throughout the world, "the marked growth of the resource extraction industry poses new opportunities and challenges for development. Private companies engaged in resource extraction face increasing pressures to devise policies for community engagement that more effectively promote local development" (Institute for the Study of International Development, 2012). This point was recognized both by the mining company IAMGOLD and the Government of Canada when they joined forces in 2011 to jointly fund a project in Burkina Faso.

According to IAMGOLD, "through proactive communication, we engage directly with our host communities to help them maximize the benefits of mining at the local level." IAMGOLD has sought to fulfil this CSR mandate in Burkina Faso, where it operates the Essakane Gold Mine, through a project aimed at improving educational outcomes for youth. The project, which was implemented by Plan Canada, featured College of the Rockies engaged as a technical assistance partner responsible for providing support to improve the Burkinabé Technical and Vocational Education and Training (TVET) system. The College did so through building the Burkina Faso's capacity in competency based education by delivering training in curriculum development and pedagogical methods. Partnership building between ministries and transitions into employment for students were also key areas of focus.

PARTNERSHIPS WITH GOVERNMENTS, FOUNDATIONS AND NON-GOVERNMENTAL ORGANIZATIONS TO SUPPORT NON-TRADITIONAL LEARNERS

The theme of partnerships has also been central to College of the Rockies' approach to non-traditional learners. Fewer of today's students fit the traditional mold of the full-time, 18-22 year old, and non-traditional older students are becoming "the new norm" (McNulty, 2014). Quite simply, the demographics of those demanding job-ready skills are different and this point is well understood by College of the Rockies. The College serves a region that has "a slightly higher population aged 24 to 54 years without high school completion than the rest of the province," a percentage of its population aged 35 or older that is higher than the provincial average, and a population "with low essential skills" (Kootenay Regional Workforce Table, 2013).

To address the need for skills at home, College of the Rockies has partnered with the Province of BC and the Government of Canada to develop and deliver a Targeted Initiative for Older Workers Program. This program provides training for individuals between the ages of 55 and 64 who are currently unemployed and looking to return to the workforce. The 14-week program, delivered at three college campuses includes 10 weeks of instruction in areas like computers, soft-skills, workplace skills and job-search strategies. This is followed by a four-week job placement with local businesses who play a key role in advising and shaping the course content.

At the other end of the age spectrum the College has partnered with the Columbia Basin Alliance for Literacy (CBAL), local school districts and other community organizations to deliver the Young Parents Education Program. This program offers parents, who have not completed high school, a supportive learning environment in which to achieve their high school diploma. The program provides academic support, life, parenting and work skills – and daycare for the children of these adult learners.

Internationally, College of the Rockies has also engaged with a variety of actors to support non-traditional learners. For instance, the College's Youth Skills Development Pre-Technology Training Program in the Caribbean reflects the College's commitment to support non-traditional learners at the international level. In Dominica, College of the Rockies has partnered with Dominica State College (DSC), government agencies, non-governmental organizations and businesses to develop and deliver 12 week training programs to at-risk, unemployed and uneducated youth. The program uses applied learning strategies to develop essential employability skills, vocational skills, entrepreneurship skills and academic skills. College of the Rockies faculty members have worked with local employers and DSC instructors to design curriculum for the program that meets the current needs of industry. At the end of the training program, the graduates have gone on to complete internships with the same employers that assisted in

curriculum development. In a testimonial provided to the College by one student, the value of the College's engagement in this program was affirmed when the student said that "this program is helping me to improve my marketability skills to find a job in today's job market, to stand on my own two feet, to help myself so I wouldn't have to depend on anyone to make things happen in my life, to support myself and my family, and to learn skills that will allow me to provide for them."

ENGAGEMENT ON APPLIED RESEARCH TO SUPPORT STRONG AND HEALTHY COMMUNITIES

College of the Rockies' is increasingly engaging a variety of actors in the area of applied research. In 2014, the College created the Inspire Center to act as a catalyst for linking College expertise and capacity with community partners to support and inspire innovation and research. One of the first projects involved a partnership with ViaSport and the Royal Bank of Canada aimed at assessing and improving the physical literacy of elementary school children. Physical literacy refers to "the mastering of fundamental movement skills (FMS) including running, skipping, hopping, and galloping" and it is important for children "as those who have the necessary skills are generally more active, are more likely to feel prepared to participate in sports or other physical activities and will be more capable of learning more complex skills later in life" (College of the Rockies, 2015, 10 April). The physical literacy applied research project featured the College's kinesiology and teacher education faculty and students assessing the physical literacy of students at two local elementary schools, with the results showing that students scored lower in their fundamental movement skills development than would be expected for their ages in almost all grade levels. This resulted in the development of a "Physical Literacy Kit that can be used to implement fun physical literacy intervention programs." This applied research engagement is working, with one school principal observing that since the project began, "we have noticed improved fundamental movement skills from our students" and "students appear to be more coordinated, better able to participate in physically demanding activities and are experiencing greater success when being physically active" (College of the Rockies, 2015, 10 April).

College of the Rockies' engagement on applied research is also contributing to strong and healthy communities a world away – in Migori and Nyeri Counties, Kenya. By partnering with Dedan Kimathi University of Technology (DeKUT), the College has sought innovative, evidence-based solutions to the challenges of high maternal and infant mortality rates in Kenya. This five-year Maternal Access and Infant Survival for Health Advancement (MAISHA) project leverages the training expertise of College of the Rockies and DeKUT to produce positive outcomes related to maternal, newborn and child health. The MAISHA project is saving lives in Migori and Nyeri, Kenya by improving knowledge and increasing skills. The

project empowers women and men with knowledge such that traditional, life-threatening practices will change resulting in women seeking qualified care throughout pregnancy and childbirth. In addition, this project trains community health officers in emergency obstetric care to provide the services that are needed by community members (<http://dkut.ac.ke/maisha/objectives/>). In contrast to other development interventions that focus on the provision of equipment or the construction of facilities, this applied research initiative is demonstrating that building human capacity is in fact the context-specific solution that is required.

ADVISORY PROCESSES THAT CREATE MUTUALLY BENEFICIAL RELATIONSHIPS WITH INDUSTRY

Canada is a top destination in the world for mining and mineral exploration with billions of dollars invested in the Province of British Columbia alone, creating an enormous need for skilled workers. As a result, mining is a core focus for College of the Rockies' programming and advisory processes have been established with mining companies such as Teck - the world's second largest supplier of seaborne metallurgical coal. Through an in-depth advisory process established with Teck, the College has developed a Mining Apprenticeship Program (MAP), which is a flexible training program designed to provide access to the Heavy Duty Mechanics and Electrical Trades through an innovative training and work placement model. Apprentices work at several industry partner work locations, which provides a wide range of practical hands-on learning experiences on a variety of equipment while working with different MAP partners and under varying workplace policies and procedures. MAP apprentices are also provided access to the College of the Rockies Learning Support Centre to assist them in the development of their computer, math, writing and communication skills. The College sponsors and supervises the apprentices, monitors and evaluates the program, and provides the technical training.

Developed and constantly refined by a College-industry advisory process, the Mining Apprenticeship Program is an example of a mutually beneficial relationship. The apprenticeship program is important to industry as Canada's mining industry modernizes and its workforce grows older. In 2013, the Mining Association of Canada estimated that "the industry will need upwards of 145,000 new workers over the next decade to replace retirees and fill new positions." At the end of the Mining Apprenticeship Program, graduates leave the College with the skills that industry needs. In turn, graduates find themselves able to fill employment gaps that pay approximately 24 percent more than the Province of British Columbia's average hourly wage (Statistics Canada, 2016; Province of British Columbia, 2014, British Columbia 2024 Labour Market Outlook).

College of the Rockies has taken its innovative approach to industry engagement to the shores of Lake Victoria in Tanzania where it is seeking to build the heavy duty mechanics training capacity of the Mwanza

Vocational Educational Training Authority (VETA). As in Canada, economic change is occurring in Tanzania and increasingly skilled women and men are needed to fill jobs in extractive industries. While College of the Rockies is aiming to help colleagues in Mwanza enhance their system of competency based education, the College is well aware that industry engagement is paramount to ensure that the skills acquired by Mwanza's graduates are those required in the working world.

By working closely with another Canadian institution, Camosun College, College of the Rockies is supporting the Mwanza VETA in establishing an advisory process that will ensure that a revamped heavy duty mechanics program delivers on the competencies required by industry. College of the Rockies first hosted Tanzanian colleagues to expose them to how the College's advisory process with Teck works in practice. Then, experts from the College visited Tanzania to launch a program advisory committee involving the participation of key extractive industry partners. The results have been well appreciated, with Heavy Duty Mechanics Instructor Julian Sowani, expressing that "through this project, we have been able to establish industry relationships with Panafrican Group, Gold Geita Mine, and the North Mara Gold Mine, which will help increase student attachment figures in the future and align our curriculum with employer expectations." An additional benefit of engaging industry partners was also noted by Sowani: "A recent visit to Panafrican's Buzwagi Gold Mine site also provided the opportunity to acquire newly donated training equipment in the near future."

BEING RESPONSIVE TO SPECIFIC COMMUNITY NEEDS AND OPPORTUNITIES

In addition to being engaged with industry, the College appreciates the importance of being responsive to the communities it serves. With seven campuses located in diverse communities across the region, the College strives to be responsive to the unique training needs of each one. Working closely with local businesses, community groups, and governmental organizations, the College has built programs that produce graduates with the skills that match up with community priorities and attributes. In the City of Kimberley, for example, the College has worked hand-in-hand with community leaders in the delivery of an internationally accredited fire training program. The program offers a certificate in firefighting as well as customized firefighting training, with graduates receiving ProBoard recognized credentials. This program is successful because the College is responsive to the regional sectors' priorities and leverages community resources to deliver training on site at local fire department and industrial facilities.

Internationally, College of the Rockies' ongoing commitment to community responsiveness was evident in the College's five-year sustainable eco-tourism project in Ecuador. Working with the Universidad Espiritu Santo

(UEES) in Guayaquil, College of the Rockies engaged community partners to develop “learning by doing” opportunities for community members to develop small innovative eco-tourism based initiatives, building experience and momentum for larger projects in the region. Sustainability was created through the development and support of eco-tourism and entrepreneurial training programs, and through the establishment of revenue generating enterprises that could reinvest profits to support future initiatives. Sustainability would not have been possible without sound engagement of the communities involved and a variety of partners from the outset.

SUSTAINING THE COMMITMENT TO ENGAGEMENT

Sustainability is an important theme when it comes to College of the Rockies’ engagement strategies. Both at home and abroad, College of the Rockies ensures that the impact of its interventions is felt long after projects have run their course. An important way of doing so is by focusing on a train-the-trainer model. For instance, by working with the Panafrican Group, which is one of the largest providers of heavy duty equipment and equipment servicing in Africa, the College has helped enhance training capacity that will support regional development for years to come. Rather than train Panafrican’s students, College of the Rockies worked with Panafrican’s training manager to develop and accredit a training program that is consistent in content and rigour to the Canadian context. Employees are now graduating with the competencies required for high-wage heavy duty mechanics employment, thereby filling jobs that previously would often be occupied by expatriate labour.

Sustainability is also evident in College of the Rockies’ use of specialized instructional delivery, including through the use of simulators, particularly in instances when this is simply more practical and extends the geographic reach of competency based learning opportunities. An example is the College’s Haul Truck Operator Program, which was developed as a result of industry engagement. This program, which is unique in the Province of British Columbia, involves the use of five Pro 3 Haul Truck and Heavy Equipment simulators from [Immersive Technologies](#). With motion bases, full head tracking capabilities and 180-degree screens, students get completely involved in realistic mining scenarios, interacting with hydraulic shovels, electric shovels, excavators and wheel loaders. They also learn how to negotiate hills and ramps in different weather and road conditions and how to recognize and respond to all kinds of mechanical failures and emergency situations. Since its inception in September 2013, the [Haul Truck Operator Program](#) has been successful in preparing more than 150 prospective employees for jobs in Canada’s mining sector (Smith, 2015, March).

Finally, College of the Rockies is able to sustain a focus on innovative engagement strategies in support of excellence in competency based technical and vocational education and training because it places what is

most important for a higher learning institution at the top of a coherent institutional strategy – student success. As is noted the College’s Strategic Plan 2015-2020, “students are the reason that we’re here, and improving student outcomes is paramount to everything we do.” This translates into ensuring that graduates are better prepared for the job market, by tirelessly continuing to engage wide range of actors in innovative ways to ensure graduates have the competencies they need in a changing world.

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