

BCEOHRN Mentorship Program

Gap Analysis & Recommendations Report



Table of Contents

1	<i>Introduction & Background</i>	3
	<i>Literature Review</i>	4
	<i>Current Mentorship Activities</i>	8
	<i>Significance</i>	10
	<i>Methods</i>	12

2	<i>Gap Analysis</i>	15
	<i>Established Mentorship Programs</i>	15
	<i>Effective Strategies</i>	22
	<i>Student Needs</i>	27

3	<i>Recommendations & Logistics</i>	28
	<i>Ongoing Strategies</i>	28
	<i>New Strategies</i>	29
	<i>Management</i>	32

	<i>Appendix</i>	37
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	<i>Bibliography</i>	38
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Executive Summary

Mentorship is a valuable tool which can cultivate the progression of students in their career paths. Based on the Strategic Plan BCEOHRN developed for 2008 through 2012, the development of an established Mentorship Program will engage the BCEOHRN membership, as mentors or protégés, facilitating networking and greater knowledge transition in the field of environmental and occupational health.

Initial plans for mentorship were developed in December, 2005 among five BCEOHRN members, which formed the Mentorship Working Group to formulate a pilot mentorship effort. This has resulted in the reorganization of the BCEOHRN mentorship web pages with greater content focusing on the identification of mentors and protégés. BCEOHRN also facilitates Special Interest Groups (SIGs), which allow members to collaborate on specific topics of mutual interest. Initially, three SIGs were formed for the following topics: Geographic Information Systems (GIS), Injury Prevention and Water Research, with allowance for additional mentoring groups. Other mentoring initiatives have emerged, such as the establishment of the Student and Professional Mentorship SIG. These steps create a foundation for expanding mentorship in BCEOHRN.

The BCEOHRN Mentorship Program will focus on reaching all of its student members at different academic levels. Mentorship resources developed will provide appropriate engagement of each group. The approach taken will transcend traditional dyadic relationships between mentor and protégé but also build relationships between peers and colleagues by creating social networks through the program development.

There are a wide range of services and resources provided (e.g. shadowing, grant application assistance, career counseling) by established mentorship programs as detailed in the following section. These services are also delivered in a variety of avenues, such as online resources, workshops and one-on-one interactions. These will provide a basis for effective strategies for BCEOHRN to undertake.

Interviews were conducted with BCEOHRN students to gauge membership activities and needs. These interviews indicated that student needs differed based on their education level and background: undergraduate students place greater value towards gaining exposure to different career fields and professional development; graduate students place greater emphasis on seeking resources to assist their research; and postdoctoral students place emphasis on conducting research but also career preparation resources.

Based on the findings of the Gap Analysis, this report recommends the maintenance of ongoing strategies including the Special Interest Groups and the Membership Database, while discussing certain changes. New strategies are suggested to further develop the scope of the BCEOHRN Mentorship Program, including: additional website content, promotional efforts, an Occupational and Environmental Health Careers Event, Student Guest Lecture Series, internships, workshops and seminars, and other roles. Feedback on these undertakings will be important for further progression of the Program. The development of these tasks will be managed by the Mentorship Working Group and the Mentorship Program Coordinator, a new position recommended in this report.

1 Introduction & Background

Mentorship is an effective tool in fostering individuals at the beginning of their career paths. Mentored individuals report greater career mobility, opportunity, recognition, satisfaction and promotions when compared with non-mentored individuals (Fagenson, 1989). According to Jacobi (1991) and others, mentorship can act as an intervention to improve student academic performance, assist students at attrition risk, integrate the flow into graduate school and professional careers, and also to humanize large and impersonal institutions (Jacobi, 1991). Mentoring acts as a form of professional socialization where an individual of higher experience level engages a protégé through guidance or role modeling in intellectual or professional developments (Jacobi, 1991).

On March 19, 2008, the Strategic Plan of the BC Environmental and Occupational Health Research Network was developed for 2008 through 2012, and included goals to satisfy its vision of providing national leadership in environmental and occupational health research. These goals include:

- Improved collaborative research
- Improved research capacity
- Improved research funding
- Increased student support
- Improved knowledge transfer

One initiative that emerged to increase student support was the development of a Mentorship/Internship program through BCEOHRN. This program seeks to fulfill a current unmet need for mentorship with British Columbian students aspiring towards professions in environmental and occupational health research. BCEOHRN aims to promote and facilitate this professional relationship between mentors and protégés and encourage students in their pursuits.

Initial plans for mentorship developed in December 2005 formed the Mentorship Working Group. A pilot mentorship plan emerged to provide mentoring to new and junior network members and to offer mentoring opportunities to senior members of the network.

The BCEOHRN Mentorship Program will use social networks as the theoretical framework to explore the results of having mentors at initial stages of professional development for students. This report seeks to find factors which are supportive in the process of networking between mentors and protégés, as well as difficulties that can be encountered in the process of building mentorship programs. This report will summarize existing operations through BCEOHRN and other organizations which support students through mentorship, discover the gaps existing in the coordination and cooperation of organizations, and develop an internal mentorship program to achieve networking between mentors and protégés, and to further the goals of BCEOHRN in supporting the field of environmental and occupational health research.

Literature Review

Theories on Mentorship

While mentorship is regarded as a positive retention and enrichment strategy by educational and professional establishments (Jacobi, 1991), it faces a diversity of theoretical discussions. Bandura's (1977) discussion of the Social Learning Theory focuses on learning within a social context, describing the mechanism of learning through observation, imitation and modeling, and enforcement by the environment. Hunt and Michael (1983) formulated an original model for mentoring that is more specific. They depict a reciprocal relationship among five categories of factors: contextual or environmental factors, mentor characteristics, protégé characteristics, stages and duration of the mentoring relationship, and outcomes for mentor, protégé and organization. While Bandura's theory emphasizes the social context, it does not address other aspects of mentoring such as emotional or professional support. Hunt and Michael offer a more nuanced viewpoint though lacking consideration of interplay between mentoring and academic structures.

Strategic Models

Mentorship operates under many different forms of interactions. Its wide range of definitions can lead to confusion in quantification of strategies. A number of models have been proposed to ground the various established frameworks.

Pearson's Social Support Model (1990) focuses on the support in preventing or reducing stress or increasing an individual's ability to cope with stress. Four categories of support exist: emotional, appraisal, informational and instrumental. The combination of the four categories within mentorship relieves students from stress so that it does not interfere with academic performance, and/or allows students to be better able to cope with academic demands. The combination of the categories of support also takes into consideration that different kinds of support are best provided by different kinds of mentors (i.e. informational support is better provided by faculty while emotional or appraisal support through students or counseling staff).

Table 1.1 Non-Exhaustive List of Mentoring Functions and Behaviours (Jacobi, 1991)

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Mentoring functions and behaviours

Acceptance/Support/Encouragement

Advice/Guidance

Bypass bureaucracy/Access to Resources

Challenge/Opportunity

Clarifying values/goals

Coaching

Information

Protection

Role Model

Social Status/Reflected Credit

Socialization/"Host and Guide"

Sponsorship/Advocacy

Stimulate Acquisition of knowledge

Training/Instruction

Visibility/Exposure

Jacobi's model (1991) lists a range of behaviours which characterizes the type of support a protégé can receive. Table 1.1 lists some mentorship functions and behaviours. Different functions or combinations signify that a mentoring relationship can endure temporary variations in a long-term partnership, or be a brief single encounter, depending upon the purpose it is meant to serve. Therefore, one measure often used is the relative frequency and effectiveness in academic outcome of the interaction (Jacobi, 1991).

Evaluation Model

Levinson's Developmental Model (1978) addresses the importance of the mentor. In this model, an ideal mentor who has achieved a self-created role would be actively involved in broadening it to provide stimulation to the protégé. The mentor would have accessibility, authenticity, knowledge and an ability to communicate effectively with the student. The impact of such mentoring positively affects a student's cognitive, personal or social development.

Some researchers focus more on the benefit factors in relation to protégés' academic achievement. Astin (1977, 1984) contends that the level of involvement of a student in the education process is a good predictor of academic success as well as personal satisfaction. As such, mentoring can be perceived as a vehicle for promoting involvement in learning. The mentor would encourage and motivate to deepen the protégé's involvement in learning and provide professional or educational opportunities for the protégé. Involvement is assessed by measuring participation in, or time devoted to various activities. Tinto (1975) offers a predictive model of retention/attrition as outcomes of commitment to the education process and institution. He asserts that students bring input such as family background, personal attributes, academic aptitude, goals and institutional commitments, which provides a baseline level of integration into the academic and social systems of the institution. At higher levels of integration (i.e. with mentorship), with controlled outside factors, student attrition is less likely to occur. Table 1.3 shows potential benefits not only to protégés but also to mentors.

Table 1.3 Potential Benefits to Mentors and Protégés in a Mentorship Program
(Adapted from Planning Institute of BC)

Mentors	Protégés
Develop career coaching skills	Develop/establish professional and academic goals
Gain insight into perspectives and attitudes of future professionals	Acquire insight regarding various positions
Increase status and reputation	Increase status and reputation
Encourages creativity and innovation	Motivation to succeed
Influence the development of academics and professionals in the field	Learn academic or professional values and culture
Improves communication and interaction skills	Improves communication and interaction skills
	Gain new skills and knowledge relevant to field and increase profile competitiveness

The following table lists some limiting factors in the mentoring process.

Table 1.2 Potential Limitations to Mentors and Protégés in a Mentorship Program
(Adapted from Planning Institute of BC)

Mentors	Protégés
Potential personal incompatibility	Mentor does not meet expectations of role
Different baseline skill and knowledge levels	Hyper-specialization of mentor occupation
Limited time available	Limited time available

Internship program

Internship within the BCEOHRN Mentorship Program can be guided with the same theories and models. As a unique construct, certain internship models should be demonstrated and considered.

Inkster and Ross Internship Stage Model (1998) - a six stage model describing transitions and stages through the internship process: arranging and anticipating an internship, orientation and establishing identity, reconciling expectations with reality, productivity and independence, closure in clarifying relationships, and re-entry into the academic setting with the experience and practical application of the experience to endeavours.

Sweitzer and King Internship Stage Model (1994, 1995) - a five-stage model drawn from development theory. The stages are anticipation, disillusionment, confrontation, competence, and culmination. The progression through the stages is to build confidence and independence, as well as higher self-esteem and a clearer sense of personal capacities.

Kiser Internship Stage Model (2000) - a four-stage model which includes: pre-placement, initiation, working, and termination. This seeks to gain personal and professional lessons, and explore learning goals.

A common theme between all three models is progression of personal stages for the participant in the internship. As the internship experience develops and changes over time, one can identify the stage within each of the models. However, the exact nature and dynamics of each stage is less obvious and all three models can be utilized in the development of the proposed internship program, as will be detailed in the Recommendations and Logistics portions of this report.

Social Network Theory

While the above theories and models focus on individuals and the evaluation of individual achievements, networking theory emphasizes the involvement of communities, which gives a higher priority to supporting learning in and about such settings as the family, neighbourhoods, voluntary associations or the workplace. In terms of content, it might involve a focus on building people's capacities for dialogue, organization and networking. Above all, it means thinking about education and learning not just as a capacity of individuals, but as something which involves, draws on, and also forms relationships. The

process is relational and involves groups of larger sizes, such as communities, neighbourhoods, ethnic and national groups (Jacobi, 1991). If effective social networks are developed, it serves to enhance efficiency in social relations and lower transaction costs associated with developing new and independent relationships (Coleman, 1988). Putnam (1995) argues the importance of high levels of involvement in voluntary associations and significant networks. Others argue high levels of involvement are not feasible and prefer small-scale, informal networks of mentors and protégés.

Researchers (Field and Schuller, 1997, Campbell and McLean, 2000, Campbell and Jovchelovitch, 2000, Edmondson, 2003, Ahern and Hendryx 2003) find the idea of social networking could provide a useful way of rethinking practice. Building social networks in the field of education would involve educators and trainers looking more closely at both their own relationships and networks and with the communities they work with.

Current Mentorship Activities

During the initial mentorship planning stages, it was observed that while certain efforts were made among the eight Health of Population Networks (HoPN) to fulfill the need to support student academic and professional development (e.g. grantsmanship workshops), there lacked a concerted and comprehensive movement in this need. Several ideas were suggested to improve student support:

- The BCEOHRN website was identified as a meaningful utility to potentially provide information to students seeking mentors.
- Multiple mentorship roles were identified: reviewing grant and scholarship applications, career development and counseling, and reference letter mentoring
- providing regular topical conference calls for members

To facilitate the development of the plans, it was suggested that a membership list for individuals interested in becoming mentors be developed.

The drafting of ideas began in March 2006. As part of the development of the membership database at the time, a new profile option was created to allow members to express their interests in participating as mentor or protégé.

Pilot mentorship groups, formerly Peer-to-Peer/Mentorship Groups and now the BCEOHRN Special Interest Groups (SIGs) were initially developed as a part of the Mentorship Program to gauge what interest can be generated in this format. They were formed for the following topics: Geographic Information Systems (GIS), Injury Prevention, and Water Research, with allowance that further mentoring groups may be added. The GIS Group identified and emailed invitations to members potentially interested in the group The Injury Prevention and Water Groups received BCEOHRN member lists to short list and invite individual members to each respective group.

GIS

The GIS Group, led by Eleanor Setton at UVic, and later by Ian Parfitt from Selkirk College, had an initial roster of nine members. Conference calling within the group was held monthly, averaging six members per call. The GIS webpage on the BCEOHRN website was updated with more new information, meeting notes, links of interest, and a GIS wiki for document sharing.

Injury Prevention

The Injury Prevention Group was led by Eileen Owen-Williams from UNBC with an initial roster of three members. A mailing effort soon followed to bolster membership to six members which communicated regularly through WebCT.

Water

The Water Group was led by Corinne Ong from UBC with six initial members. Further recruitment at UNBC and Kamloops increased the group to eight members by early 2007. The current focus of the Water Group is to pursue a project to examine in water research in rural BC, which shifted the mentoring dynamic to be primarily peer-to-peer. Funding for the project would be sought from the BC Rural and Remote Health Research Network and consideration was made as how to incorporate teams from other networks. Group e-mail discussions took place regularly, although with some difficulty due to the frequent change in participants.

A number of creative ideas have been launched from the pilot SIGs. These include: Webinars, Teleconferences, Wikis, Message Boards, and ``Lunch and Learn`` events. The variety and capacity of communication technology usage between all the SIGs present a successful endeavour to break down communication barriers and achieving accessibility to members across the province.

The Mentorship Working Group also explored the idea of promoting the internship program to interested students. This would also include promoting BCEOHRN, but since the mentorship program is especially beneficial to students, the working group has determined a number of initial strategies:

- utilizing student groups and graduate student listservs or newsletters, as well as inclusion on topical websites affiliated with BCEOHRN
- presenting the Program at future BCEOHRN Annual General Meeting accompanied with print materials as was done in 2006
- collaborating with the Educational Event Working Group by highlighting the Mentoring Group

The positive peer-to-peer interaction provided by the Mentoring Program has led to the establishment of the student driven Student and Professional Mentorship SIG lead by Cheryl Peters from UBC. This group plans to incorporate peer-to-peer efforts in application review, advising, workshops and other learning opportunities.

Mentorship web pages on the BCEOHRN website have been reorganized to reflect the efforts and results of the working group. A number of members within the network have also listed themselves as mentors or protégées in the membership database.

Significance

The implementation of a BCEOHRN Mentorship Program promotes environmental and occupational health and especially supports students and junior professionals within the field. Although there are many other mentoring opportunities within BC which offer a variety of related services for students at different academic levels, there is a lack of programs which primarily focus on environmental and occupational health. The development of a Mentorship Program within BCEOHRN seeks to fulfill that gap. The Mentorship Working Group senses that there is currently high demand and interest for a thorough mechanism to develop a comprehensive mentorship program.

Mentorship relationships are based upon support dynamics focused on personal development. They can

also intend for the protégé to succeed in academic or professional pursuits. This will help protégés to achieve with consideration of longer term goals by having a mentor of greater influence, achievement or experience. Meanwhile, mentors may provide emotional and psychological support, direct professional assistance and/or role modeling. This relationship, which requires direct contact and involves exchange of information beyond traditional resource based learning, is intended to be beneficial for both mentor and protégé.

Approach

This report uses the networking theory and social learning theory as the concepts to explore supporting factors and benefits in mentorship programs across BC. Networks are constructed as relationships and connections between students, professors, professionals, experts, communities and various governmental and non-governmental organizations. Students' growth will be a result produced in these relations. The binding feature of networks is communication and relationships.

Goal

The target protégés of this program are BC students at all educational levels ranging from undergraduate to post-doctoral who desire to be, or are already in the area of environmental and occupational health as scholars or professionals. The Program should provide a certain amount of flexibility and variety in its structure and guidelines so that students at all levels receive an appropriate degree of mentorship that is stimulating and challenging. Junior students should be provided with more introductory material and exposure to professional choices and senior students should be provided with more challenging opportunities with pertinence to specific goals and needs.

Aim

BCEOHRN's Mentorship Program seeks to transcend traditional mentorship methods which focus upon dyadic relationships. Higgins (2001) notes that individuals form "relationship constellations" – reliance on not just one, but multiple individuals for developmental support in their careers. While a dyadic relationship for various mentorship functions is beneficial for the program, BCEOHRN can further catalyze other mentoring relationships as well by including peers and communities. The Mentorship Program will include both formal networks and informal, small-scale, networks of peers and colleagues.

Task

This program will explore different ways of promoting and facilitating collaboration at different levels through publicizing the mentorship program and increasing interactions between students and mentors. In addition, the project will develop strategies to share local resources which emerge from this Program with other BCEOHRN services and other HoPNs. It is also important to identify clear outcome measures to evaluate the progress of the Program. This report will set out guidelines and define an operational procedure for logistical implementation.

Methods

A series of tools are proposed to facilitate the development of this project: literary resources, interviews with potential mentors and protégés, BCEOHRN executives and its Board of Directors.

BCEOHRN already provides a host of resources for students and professionals involved in environmental and occupational health. This support includes job postings, workshops with invitation of keynote speakers, seminars, funding access, and other features. In developing further support within the context of

mentorship, the creation of student internships has been considered.

Communication

Mentors will include both academics and professionals. While simple communication between the mentor and protégé will be the primary experience, participation within the mentor's organization or work environment to enhance learning and insight will also occur.

Internship program

A formalized internship program can support active engagement of students and facilitates the promotion of mentorship. The goal is to provide guidelines and infrastructure for mentors to invite students into their work-place setting. Internships are expected to be complementary, and not to compete with general mentorship as an influential component of academic and career preparation. In this capacity, the mentor also takes the role of intern supervisor. The development of the internship program will further be discussed in the Recommendations and Logistics portion.

Database

The Mentorship Program benefits by having a comprehensive membership database of self-enrolled academics and professionals. Some of these members have also volunteered to become mentors for interested protégés. The Program can increase the number of mentors available by encouraging senior members to participate through actively communicating the benefits and incentives.

Networking

Among the above mentioned mentorship models, the protégé and mentor needs and dynamics within BCEOHRN should elucidate the ideal framework for a foundation. While BCEOHRN is a province-wide organization associated with many academic institutions, the role of retaining students in specific institutions is beyond its mandate, although such a result is likely to occur indirectly.

The execution of the BCEOHRN Mentorship program can include other Michael Smith Foundation for Health Research (MSFHR) HoPNs if the foundational model of a mentorship program developed is utilised across other networks. The mentorship program also offers a framework of many tools and facets to be shared across the HoPNs. It is seen from the progress of the working groups that a variety of communication technologies has been highly conducive to the participation of individuals. These technologies can be recommended to implement mentorship capacities across other networks. Other shareable tools will be discussed in the Recommendations & Logistics portion of this report.

Potential Limitations

Limitations to consider in the development of the BCEOHRN Mentorship Program include the recruitment of protégés and mentors. Having sufficient participants ensures the establishment of significant and lasting mentorships. There are also Mentoring programs which exist outside of BCEOHRN and offer a variety of different resources. The BCEOHRN Mentorship Program should focus upon expansion into areas not supported by existing programs and avoid duplicating resources already in existence.

Potential Benefits

The tools and utilities developed through the Mentorship Program are not limited for the use in this Program. For example, the communication methods can also be beneficial to other branches of BCEOHRN. Newly developed strategies in the SIGs such as webinars or wikis can also be adapted to be used in other BCEOHRN initiatives to promote participation.

Through engagement in the Mentorship Program, senior members will be exposed to other BCEOHRN

services. This can promote overall participation in BCEOHRN beyond mentorship. In addition, this can add to the level of expertise available to each resource. The program provides an added-value benefit to the membership within BCEOHRN, to enhance its status as a leader in occupational and environmental health research. Finally, the program as a whole enriches the field of environmental and occupational health in British Columbia and heightens pursuits in this field through connecting experienced professionals in engaging students and new professionals to develop a stronger network of interactions.

Summary

The instructional value of each mentorship interaction is unique to the mentor(s) and protégé. Even so, the development of the Mentorship Program seeks to have solid operational procedures and guidelines. Mentorship provides a valuable resource for students in their career progression in the environmental and occupational health sciences. The establishment of this program will fulfill BCEOHRN's goal to provide support for students. Different relationship roles can offer the flexibility to engage students of all academic levels and backgrounds. The assemblage of the various factors in the Strategic and Evaluation Models, Internship Models, and the Social Network Theory is in effort to create an ideal basis for the mandate of BCEOHRN.

This report seeks to develop adequate planning, structure and opportunities for the development of the Mentorship Program and support the ongoing achievements of BCEOHRN.

2 Gap Analysis

The role of the BCEOHRN Mentorship Program is to provide a resource for students to cultivate their professional skills, apply their academic knowledge, and provide support in their participation in environmental and occupational health research. In doing so, the program needs to identify what resources are desired by students, what resources are available but require change, and what effective strategies have been adopted by other programs so as not to overlap, or so they can be adopted by BCEOHRN.

The Gap Analysis is based on information provided by a number of students interested in providing insight regarding their personal experiences with mentorship. Further data comes from different established programs within and outside of BC, some of which are listed in this report for illustrative purposes.

Established Mentorship Programs

Various mentorship capacities of different structures have been established within and outside BC to support junior academic and professional development. Exploration of these opportunities offers insight upon the development of a comprehensive program within the BCEOHRN. Further, the presentation of other resources prevents an overlap of services and establishes a contextual basis.

Programs within British Columbia

HeRRO

<http://www.herro.ubc.ca/>

UBC's Health Research Resource Office (HeRRO) offers a matched grant mentorship/internal review program. The program is available to UBC's health researchers and has improved outcomes with CIHR applications since its inception.

Internal Review (IR) is a process whereby one or more expert reviewer is matched, according to expertise and availability, with a researcher who is preparing a grant application for a specific competition. The researchers work together to review and refine the application. Feedback and recommendations are provided via email, telephone and/or face-to-face sessions to strengthen the quality of the application and improve the chance of being successfully funded.

The majority of the requests for IR are for applications to CIHR's operating grant competitions in March and September, as well as other CIHR competitions (e.g. New Investigator Awards, Request for Applications, Randomized Control Trials, Team Grants, Seed Grants, etc.). However, HeRRO welcomes the opportunity to coordinate IR for researchers submitting an application to other local, national and international health research grant competitions (e.g. CHSRF, MSFHR, NIH, NSERC, and SSHRC).

UBC College of Health Disciplines

<http://www.health-disciplines.ubc.ca/pm/index.htm>

The UBC College of Health Disciplines offers a Managing Programs section directed to disseminate a guideline to support the development of preceptor/mentorship programs for the purpose of educating, recruiting and retaining health care professionals, and to foster a culture of continuing learning. These guidelines include information differentiating preceptoring versus mentoring, and defining their roles. It considers planning and implementation, training and development, rewards and recognition, evaluation, cultural diversity, as well as offering resources and links.

UBC Faculty of Medicine

http://www.med.ubc.ca/faculty_staff/mentoring.htm

The Faculty of Medicine (FoM) at UBC has a mentorship policy to formalize an arrangement for mentorship towards junior FoM faculty members whereby new faculty are well supported during initial years in development.

The program has a multitude of objectives:

1. To assist junior faculty members in the management and progression of their academic career.
2. To provide a forum for sharing wisdom and experience among faculty members.
3. To facilitate a team approach to successful development of junior faculty.
4. To develop skills in mentees and other junior faculty to enable them to become future mentors.
5. To create mechanisms for rewarding contributions of senior faculty members that lead to success in junior colleagues.

UBC Research Opportunities and Directory

<http://road.ubc.ca/>

UBC Research Opportunities and Directory (UBC ROAD) aspires to serve undergraduate students through introduction and support to undergraduate level research. “It seeks to introduce undergraduate students to the benefits of research by providing centralized resources and educational services to those interested and already involved in the various disciplines of research.”

The program is targeted towards students across all disciplines and provides a number of services to encourage participation in research and related activities. This includes:

The “ROAD to Research” Workshop Series aimed to help students in the search phase of seeking a research position to define research and its benefits, identify the student’s interest, how to pursue positions and various opportunities available to undergraduates. Also available is a “Sharing the ROAD” Student Seminar Series which offers students an avenue to present their experiences in research, and further build an undergraduate research community, encouraging student researchers to share their research work. On the same theme, the organization has developed the “ROAD to Discovery” Online Research E-Journal, publishing undergraduate student research and exposing and stimulating the peer-reviewed academic publication process. Additionally, the organization also offers a database of UBC researchers from various faculties and programs, and promotes mentorship with the “ROAD Undergraduate Mentorship Award” for a principal investigator demonstrating support through accepting and training undergraduate students.

University of British Columbia Faculty of Land and Food Systems Internship AGSC 496

AGSC 496 is a unique credited course available to 3rd or 4th year undergraduate students with Land and Food Systems pre-requisites. The course prepares students to join the workforce through an experiential learning experience. Through this course, students apply theory from undergraduate courses to a volunteer or minimally paid position in a professional work environment. This is completed under the supervision of the Career Development Coordinator as well as a mentor who will help the student to develop career-building skills.

Students are responsible for completing course requirements, including career development workshops, an oral presentation, course journal and other internship obligations.

University of Victoria MBA Executive Mentor Program

<http://www.business.uvic.ca/graduate/features/mentor/>

As part of the Masters of Business Administration program, students are matched with business executives. These mentors are seen as role models for students seeking advice, gaining exposure to real management environments, and networking in the business community. The program has been running since 1992 and has over 75 mentors. Students and mentors are matched based on completion of a profile questionnaire and interviews with the program coordinator. Mentors are expected to bring students into their place of work, introduce them to colleagues, answer career related questions and offer advice. Informal networking sessions are held for mentors and students at least once a year. The program coordinator follows up by contacting each mentor and students six to eight weeks after they were matched to find out how the match is proceeding. A newsletter is sent two or three times a year to all participants. Upon completion of the mentoring relationship, both students and mentors complete a questionnaire to provide feedback to the program coordinator. There is a 90% participation rate among students.

Co-op Employment Programs

Various BC academic institutions offer undergraduate students Co-op employment opportunities across various disciplines in science, land & food systems, applied science, commerce, forestry and wood sciences, and arts. Co-op provides the opportunity for students to apply their academic studies with a relevant and productive work experience. This allows them to gain skills and experience for employment preparation, as well as an understanding of professional opportunities upon graduation. It offers a year of practical work experience between school years while networking to increase job prospects after graduation.

Student Career Centre

Most BC academic institutions also have Student Career Centres to assist with professional development. The centre supports students enrolled in the institution. The range of services offered include career building workshops, resume reviews, mock interviews, job postings, and may offer services of career mentors or counsellors.

Alumni Association

The alumni association of various BC academic institutions provide resources and services to its students who have graduated. Certain alumni associations offer mentoring initiatives such as luncheon series

(UBC-O), or connections to career mentors (UNBC).

Programs outside British Columbia

A number of different opportunities exist outside of BC. The list is adapted from the Peer Resources Network's Guide to Mentor Programs Listings. It is presented here to demonstrate the diversity of options available to students nationally and globally.

Trent University Alumni-Student Mentoring Program (Peterborough, Ontario)

This program is an online, e-mentoring service that pairs current students with alumni. The focus of the service is to assist students to learn about career options and seek advice from successful alumni working in a variety of professions and fields. No formal matching occurs, and a database allows potential partners to seek out potential alumni mentors. Mentors can be alumni, faculty or staff at the university. Students and mentors work out their own arrangements with regards to the length of mentorship, amount of contact, and degree of commitment. The Career Centre website provides a list of tips and resources for mentors and partners.

University of Regina and University of Saskatchewan (Regina, Saskatchewan)

The Student Development Committee wanted to create closer links between the students at the University of Saskatchewan, the University of Regina and the members of the Association of Professional Engineers and Geoscientists (APEGS). Mentors are matched to a protégé and information about each forwarded to the other. The mentor initiates contact by emailing the student to arrange an in-person meeting. Mentors typically share experiences which may be helpful for the student as he/she works toward a career as a Professional Engineer or Professional Geoscientist. This may include assistance with access to resources such as corporate libraries for student projects, industry contacts, or even invitations to social activities where the student can mingle with professionals. The student and the mentor work out details about their resources, time availability and interests.

Howard University Faculty Mentoring Program (Washington, DC)

Howard University partners with Bowie State University, The Catholic University of America, Howard Community College, Marymount University, and Virginia Tech - Northern Virginia Center. Graduate students are given opportunities to deliver guest lectures under the tutelage of faculty mentors and participate in a variety of learning experiences.

DePaul University ASK Program (Chicago, Illinois)

ASK (Alumni Sharing Knowledge) is a mentoring and networking program offered through the Career Center of DePaul University in Chicago, Illinois. Hundreds of DePaul University alumni volunteer as informal advisors, contacts and mentors to DePaul students and other alumni. They share perspectives on their own education and career development, offer advice about their professional fields, and participate in programs offered by the Career Center. Students complete a brief registration form describing their interests and then receive the name of a possible alumni mentor. The student and mentor then plan their meetings which can be in person, by telephone, or through e-mail. Meetings are often arranged to discuss occupational skill requirements, employment outlooks in a particular field or company, career paths and interviewing or resume techniques.

Duke University Faculty Mentoring Program (Durham, North Carolina)

Advanced doctoral students in the humanities, social sciences, physical sciences, and biological sciences are paired with a faculty mentor from a partner institution, such as Durham Technical Community College, Guilford College, or North Carolina Central University. Together they develop an action agenda of formal and informal activities for the year, and participate in luncheon discussions on various professional issues, special weekend workshops on pedagogical issues, and monthly disciplinary seminars. Faculty mentors receive appointments as Visiting Scholars at Duke, giving them access to libraries and other university facilities as well as invitations to join monthly departmental seminars or speaker series.

University of Kentucky Faculty Mentoring Program (Lexington, Kentucky)

Faculty members from partner institutions including Centre College, Lexington Community College, Eastern Kentucky University, Kentucky State University, Transylvania University, and Asbury College invite students to join them for day-long campus visits to study the roles and responsibilities of faculty at different types of institutions, faculty life cycles, advising and mentoring practices, the academic labour market, as well as preparations for job searches. Courses are also provided to prepare students to become faculty members. One course on teaching is an experiential course that links students with a faculty mentor at a partner institution where they might teach or co-teach a course, present a talk on their research, attend faculty meetings, and/or participate in faculty development activities. A peer-mentoring program prepares graduate students to serve as mentors to new graduate students.

University of Wisconsin (Milwaukee, Wisconsin) and Marquette University (Milwaukee, Wisconsin)

Working with partners Alverno College, University of Wisconsin-Parkside, Carthage College, University of Wisconsin Center-Rock County, University of Wisconsin-Green Bay, and the University of Wisconsin Center-Washington County, these two universities have jointly developed individual and group activities to contribute to graduate student development opportunities. Some of the activities include workshops on preparing professional portfolios, teaching at two- and four-year partner institutions, an annual conference, and internal and external mentor/mentee relationships. A Marquette graduate student organization, working with the graduate school and the Center for Teaching Excellence, has developed a year-long calendar of on- and off-campus activities, including an orientation for new graduate students, brown bag lunches, peer and faculty mentors, practice interviews with alumni and faculty, and workshops and conferences. Students participating in all the events earn a transcript notation that they have completed the program. Each graduate student has multiple mentors, representing various academic disciplines and perspectives, and has the opportunity to have many teaching and learning experiences within a complex college-wide program.

Harvard ManageMentor Plus (Cambridge, Massachusetts)

The Harvard Business School publishing division has created a list of topic areas designed to act as "mentors" on a just-in-time, desk-reference basis. Users can select from 33 topics, read about a specific case, core concepts, steps, tips, and tools, and then test themselves or select resources to learn more about the topic. The topics are listed under the general titles of business essentials, communication skills, personal development, working with teams, and working with individuals. The individual modules reflect practical ways to handle everyday challenges faced by managers. Details about the "mentors" who created each module are also provided. The service is fee-based and the access cost is determined by the category of user.

Peer Mentoring Program at the University of Alabama (Birmingham, Alabama)

The mission of the Graduate Student Peer Mentoring Program is to provide a welcoming and supportive environment at the University of Alabama for all graduate students and to link them with successful role models. The goal is that the program will help improve academic motivation, performance, and retention of participants.

The Graduate Student Peer Mentoring Program matches new graduate students (or current graduate students who feel they would benefit from the program) with a peer mentor--a current or past graduate student who is willing to give away what he or she knows. Peer mentors model the qualities necessary for successful completion of a graduate program and provide their protégé someone they can identify with. Mentors and protégés are matched according to similarities in discipline and interests before the beginning of or early in each fall semester.

Effective Strategies

The assessment of mentorship programs cannot be complete without being a part of the internal organizing committee and realizing the goals and aims of each organization. Nevertheless, an evaluation can be made for key aspects of each program to understand which features are useful and will be helpful to adopt in light of BCEOHRN's goals.

A number of local mentoring programs have been previously detailed. BC offers a variety of mentorship resources for students, though each organization has different target users and feature resources.

One resource is the Internal Review Program (IR) at UBC's Health Research Resource Office. The use of this resource specifically addresses the need for reviewing grant applications from UBC researchers by an expert reviewer. The set up and goals of IR are very simple and useful, and demonstrate that a core service alone can be effective.

Conversely, an example of a comprehensive mentorship program is UBC ROAD, a relatively young program. UBC ROAD's goal is to support undergraduate level research. Its approach has led to extensive resources including workshops, seminars, and an e-journal. While the needs of BCEOHRN members are different, this sort of comprehensive approach to having a wide reaching appeal, coupled with an organized structure can provide a positive return in gaining members and supporting its mandate. UBC ROAD has developed a high variety of resources in a short period of time; this strategy allows the entire infrastructure to be in place as students and mentor numbers grow. A drawback could be an initial under-utilization of what is available.

Further support to undergraduate level research is the offering of honours programs in many programs across institutions. Honours programs can vary in how they are offered, though generally, they present a research opportunity for undergraduate students by undertaking an Honours Thesis, overseen by a thesis supervisor, and culminating in a thesis defence. An honours program is a traditional academic route to gaining research experience early in the academic career. It can also include supporting courses and seminars pertaining to the specific subject area as well as provide instruction and support to analytical, writing and presentation skills.

The UBC ASCI Internship Program is very popular among students in the Land and Food Sciences Faculty, allowing the participating students to earn academic credits towards graduation. It offers direct professional development as students take an internship placement supervised by a faculty mentor. Students must fulfill specific internship requirements to gain the most out of their placement. The program is well advertised and known within the faculty. It is structured with an application and interview

process followed by selection, and offers students academic acknowledgement in way of gaining formal credentials for enrolled students. Further, it provides a direct work place experience with a support system for students.

Many institutions also have career centres or alumni associations for their students. These are valuable resources that can have a wide reach in providing opportunities for students who are familiar with the programs. However, these resources can be very broad and offer generic forms of counselling. As the programs have an audience of students across all disciplines and professional skills, they are designed to have widespread appeal. Therefore, a further aspect for BCEOHRN to determine is the level of specificity for the Mentorship Program, as its members are more focused in a particular, though cross disciplinary, field.

There is a large variety of mentorship programs outside of BC with different outreach techniques to recruit students. The Trent University Alumni-Student Mentoring Program demonstrates a flexible infrastructure that emphasizes student initiative in seeking their own mentor and determining arrangements. The Program is also completely online, allowing minimal maintenance and monitoring. Other programs, such as those in the University of Regina and University of Saskatchewan, match mentors and students based on their needs or profiles. The Harvard ManageMentor Plus is an entirely different concept where there are no mentors per se, but rather a desk-reference resource for students on different topics.

Different programs also allow students to participate in different activities; guest lecturing at Howard University Faculty Mentoring Program, discussion luncheons or workshops at the Duke University Faculty Mentoring Program, and shadowing at the University of Kentucky Faculty Mentoring Program. Mentorship programs have a broad and flexible range of activities and resources, which BCEOHRN can tailor to its needs to best accommodate to its students and mentors.

Student Needs

Interviews with students ranging from undergraduates to postdoctoral were conducted to determine their opinions and ideas about mentorship. The interviews were conducted by phone, e-mail and in person where possible and a standardized survey with open-ended questions was offered to promote response, opinion and critique (Appendix).

Undergraduate Students

Mentorship at the undergraduate level is overwhelmingly recognized as important and helpful. At this level in education, there is generally a large number of career oriented resources sanctioned by the education institution available to students. Due to the broad level of education offered at this stage of education, the professional development support should be comprehensive. Successful and well received programs offer experience for the student to gain practical skills with application of their studies as well as support in building resumes, curriculum vitae or portfolios, and provide some sort of career counselling.

The benefits of having a mentor, peer support, or internship experience are well acknowledged. They include: gaining insight into the professional realm related to the field of study, acquiring a greater sense of direction in academic or professional goals, applying knowledge from the classroom or previous work experience, and gaining overall work experience.

At the undergraduate level, a diversity of opportunities exists, some of which are listed earlier in this section.

In terms of a dyadic, mentor-protégé interactions, these opportunities include co-op programs, honours theses, internships, and general work experience through the education institution. Many of these experiences have been received positively by students, and at this level of education, professional exposure seems to be the most valuable. The type of experience provided a hands-on environment for students to cultivate a sense of professional atmosphere and develop interest and goals in the field.

The role of peer-to-peer mentoring is demonstrated to be useful, but one that requires care in its implementation. Peer-to-peer mentorship generally occurred in classroom settings with long term group work or student-run campus organizations. This type of interaction teaches soft skills that are beneficial in developing professional competence. Negotiating and compromising with peers, learning to both work in a group as well as independently, and adapting to different roles in a group to have a dynamic skill set. Criticisms of peer-to-peer mentoring mainly occurred when the type of interaction was too loosely structured. Although unrestricted freedom allows for creativity in group performance, it is easy to lose direction and lack organization. This can lead to wasted time in dead-end ideas and goals, and may require several restarts in following up a confirmed plan. This process can lead to frustration and disinterest among the participants. Nevertheless, the overall use of a peer-to-peer infrastructure gathers individuals of similar interests and allows them to interact and pool their collective knowledge. This cultivates a deeper understanding of the field through exposure to different ideas, and gain support from other individuals. The flexibility that a peer-to-peer interaction offers may yield benefits that are inconsistent and would require implementation to have a certain amount of inherent structure and guidance for the participants to optimize its usefulness.

Graduate Students

Graduate students are composed of a wide range of age groups, academic backgrounds and professional experiences. As such, depending on the student profile, different students will find different resources valuable. Certain students are enthusiastic towards the idea of an internship program while others may already have enough professional experience in the field that the mentorship aspect is more valuable in career counselling than experience. What is generally considered useful is establishing a relationship with a trusted mentor who will be able to provide guidance. Again, how the interaction occurs in terms of e-mailing, telephone, or in person, and the frequency preference varies greatly. There does seem to be a preference for contact, at least initially, by e-mailing, though in person interactions are also valued. The specific needs, however, at this level of education, are a focus primarily on research related assistance. This includes manuscript editing, exposure to or learning different research methods and grant application writing. Further, graduate students can be separated by individuals with goals in the professional industry versus an academic direction, again reflective of the diversity of students at this education level.

The graduate student is often mentored by the graduate supervisor or other members of the supervisory committee who would be directly involved with the student's research and professional goals. The graduate supervisor also represents a connection to other mentors in the field as an experienced and senior professional. This major support exists for graduate students as they further their education.

Peer mentoring also seems to be effective at this education level as group work is common in most student backgrounds. Peer mentoring, as described in the undergraduate student section, has its drawbacks, but provides an arena where students of common interest can troubleshoot more effectively or network and develop interests. Indeed, the establishment of the Student and New Professionals SIG is reflective of this.

Whatever resources the program does offer, it is also a matter of self motivated participation through the effort of the student as well. Despite the different profiles graduate students can have, well determined resources which satisfy research needs can be adopted to suit most students.

Postdoctoral Students

Postdoctoral students are engaged in the crossroads between studentship and the professional realm. As such, there are a number of conditions which should be taken into consideration for this population. Postdoctoral students often undertake research projects at institutions, but due to their status as students rather established researchers, funding often must be channelled through senior individuals, whereby due credit can also be misallocated. This phenomenon is reflective of an academic culture that is beyond BCEOHRN's mandate to influence. Within BCEOHRN's capacity, however, are advocacy roles as an eventuality if postdoctoral students are representative of a significant portion of student members. Meanwhile, independent funding through BCEOHRN that is directly issued for research to students plays a very helpful role, and should be a maintained effort. A beneficial feature to support postdoctoral students is to take advantage of the current Special Interest Group structure and form a peer to peer setting especially for postdoctoral students. These students have a different set of needs in terms of academic support, therefore, having further peer support beyond may be beneficial among the demographic, though that development is dependent upon attracting enough students at that level as well as interest for its implementation.

Postdoctoral students are ambitious to achieve academic posts and need stronger direct assistance with professional counselling. Where educational institutions often have generic CV building and interview workshops, these often lack specificity and are not particularly beneficial towards the aims in career searching for academic posts. BCEOHRN can offer a more rigorous and precise job search preparation. Basic advice can be offered on the website or with directory listings of different resources. More useful to this group will be the offering of mock interviews that is reflective of interviews which take place for academic postings. Generally as candidates who are shortlisted to be interviewed have already emerged from a large pool of candidates, BCEOHRN members would benefit from having additional preparation. A workshop that is occasionally offered through the network would be immensely helpful to the student members and expose them to rigorous interview settings.

Summary

There exists a range of options that BCEOHRN can adopt and incorporate as a part of its mentorship strategy; however, the decisions must be well informed based upon the needs of its student members. Inherent structures in BCEOHRN are useful and should be ongoing as supportive resources to students. To adopt new ideas, specific requisites should be fulfilled based on student opinions conducted through this report as well as established programs whose strategies have been effective. Certain strategies emerge as being basic and practical as well as easy to undertake to support the continuing mentorship efforts of BCEOHRN.

3 Recommendations & Logistics

Many strategies have been demonstrated by different mentorship programs listed in the previous section. Effective and suitable initiatives will be adopted under BCEOHRN to increase the presence of its Mentorship Program and increase support to students in environmental and occupational health research.

A consideration is the ongoing management of the program. As the program develops, a number of administrative plans should be set in place for its successful progression. Included in this portion will be the discussion of initial and long term tasks to be described for the role of the Mentorship Coordinator.

This section will present a number of mentorship approaches that are conducive to BCEOHRN's mandate. Approaches will be presented chronologically in terms of the BCEOHRN adoption strategy and organized into Ongoing Strategies and New Strategies.

Management

The ongoing efforts of the BCEOHRN Mentorship Program require a number of management levels to maintain its activities for members.

As with the current structure, the Mentorship Program works well with a Working Group to discuss and negotiate ideas. With the progression of the program, the Working Group should include the leaders of all Special Interest Groups, the Mentorship Coordinator, but also be open to general member participation to encourage transparency in its procedures and promote new ideas.

A new role, the Mentorship Coordinator, will oversee the activities of the program and implement the initiatives as detailed above. In its development and implementation stage, to adopt the new strategies will require an initial high workload to gain momentum in the roll out of the program as many of these strategies will require foundational establishment.

Tasks to attain initially include:

- Modifying the database
- Adding website content
- Initiate liaisons to develop student guest-speaking opportunities
- Plan and develop a pilot workshop for further in the year

As the timing of the program development coincides with a new fall academic season, it is beneficial to complete these aspects quickly and begin promotional efforts for students. As the initial workload settles, many of the initiatives will require ongoing maintenance and others a longer development goal.

Long term Tasks:

- Overseeing SIG activity
- Tracking database activity
- Any additional website content, updates or modifications
- Ongoing promotions to various BC institutions
- Further establishing the student guest speaker series
- Planning ongoing workshops or seminars
- Continue to establish and oversee internships

Ongoing Strategies

SIG

The Special Interest Groups have proved to be a particularly engaging and effective resource segment for BCEOHRN members. It is a crucial dimension of the Mentorship Program, building strong peer-to-peer networks and promoting exchange of ideas as well as creating new projects and opportunities for participants.

Currently, the four SIGs; Water, Injury Prevention, GIS, and Students and New Professionals have different levels of activity. Through the history of the group activities, it can be seen that participation grows and wanes with member and leadership availability, and participant turnover- participation in the SIGs is a dynamic process. While regular high levels of activity in any group is ideal, a dynamic activity level should be allowed to maintain flexibility for its members, ensuring participation is accessible.

Where possible, features should be refitted to encourage participation when the interest is present. This can be the addition of the features or reconfiguring current features being used for the SIG (see list below), or developing new features which will better facilitate interaction.

Features currently under adoption within the SIGs are:

- Individual Group Webpage
- Lunch and Learn
- Wikis
- Message Board
- Webinars
- Teleconferences

Of note, especially in light of different participation levels are the static resources which encourage participation such as wikis for document sharing or message boards. These do not require regular attendance and are receptive to new audiences. They also serve to pool knowledge from previous events of the group and compile knowledge from individuals who are unable to participate in a “live” event. As such, in the formation of new SIGs, leaders and participants should be aware of the variety of available tools available to conduct activities most suited to the needs of their participants.

The promotion of new SIGs should also be encouraged. Currently SIG formation faces hurdles in finding individuals willing to take on the leadership role. Some methods to overcome this can be to encourage multiple individuals (co-leaders) to take on leadership roles or have task division to lessen the responsibilities of one individual. Also, it may be beneficial for potential SIG leaders to be aware of

activities and projects the group can undertake. This can be in the way of a more detailed summary webpage for the SIGs. Further, groups lacking leadership and without interest internally to take the role then new or outside membership for this role can be sought through advertisement either in the SIG webpages, or more widely, the BCEOHRN bi-weekly updates. Additionally, it appears hesitation exists in forming a new SIG when it is difficult to gauge interest. To address this challenge, interested individuals can submit their group idea, where the coordinator can publish a list of proposed new groups and provide an avenue to connect with other individuals who would be interested in participating.

Special Interest Groups should continue to have internally selected Group Leaders to oversee each group's operation. Wherein the Group Leader must step down, as is the case with the Injury Prevention group, the group can then select another lead internally, and self manage without a lead until a new Group Lead is assigned, or activity of the group can be put on hiatus. Dissolution of a group should be discouraged as the dynamic nature of participation may see interest to take over static groups at any point. Further, group information and previous activities can be maintained on the website and can continue to service as a resource.

The newly formed Students and New Professionals SIG is of note as its intended members are targeted participants of the Mentorship Program. Currently it has held a highly successful Lunch and Learn event with future events to be planned. This SIG can serve as a platform for many of the new initiatives below, such as mobilizing seminars and workshops through the Mentorship Program or drawing participation for the Student Guest Lecture Series discussed below.

Overall, the structure of the Special Interest Groups should be one that promotes inclusiveness and participation, and is inviting to dialogue and exchange of ideas between individuals and groups.

Membership Database

Currently, the membership database has been a useful tool in connecting members to form mentor-protégé relationships. Its current functionality allows individuals to generate a list of members interested in being mentors or members seeking mentors, and provides contact information for each member profile. The current problem which exists is that the search function may be under utilized by members. While reception to contacting a potential mentor is highly positive, some members in the research of this report were simply unaware of the search utility. To facilitate the communications between protégés seeking mentors, a different system can be adopted using the current database. While contact information such as e-mail and phone numbers are still displayed for students seeking mentors to freely contact, a form system may encourage activity.

Members willing to serve as mentors can have an added field in their profile detailing a selection of different mentoring services they are willing to provide (manuscript editing, career counselling, seeking students to supervise, answering general inquiries, etc.), or detailing specific interests they have in mentorship. Further, there can be a form field for the student to send an e-mail through the BCEOHRN website to the member and a selection field categorizing the nature of their inquiry. This serves to be a more established and inviting format for students to contact another member. Also, messages through the BCEOHRN website can be formatted so the recipient is aware that this is a mentorship inquiry. Finally, providing this format allows BCEOHRN to have some data to trace the utilization of the database. The mentorship needs of students are represented by data of the frequency of various types of mentoring services that is sought out.

New Strategies

Website Additions:

The BCEOHRN website serves as the hub to disseminate information for its members. As such, its usage should be maximized in light of the Mentorship Program and provide some basic career counselling services. This portion of the Mentoring Program should be a series of documents in webpage form under the current Mentorship Program section of the website to provide some basic career counselling information.

The purpose of this section is multi-fold. Firstly, as BCEOHRN grows and attracts more members, the growth of members interested in participating in the Mentorship Program is unpredictable. While there is already significant activity within the program, new members may have a “lurking” period before deciding to actively participate in these activities. The program should then offer features that are useful to individuals potentially interested in being active participants. Second, having a general career counselling resource offers proper baseline knowledge as well as a good contextual basis for students interested in environmental and occupational health research before approaching senior mentors or participating in peer-to-peer mentoring. This type of resource will inevitably overlap with career services at various institutions, however with a specific focus on mentorship with the field of environmental and occupational health, separate documents unique to BCEOHRN have value. To reduce redundancy in this respect, other resources, or career services of different institutions can be referred. This is already implemented under the “BC University Mentorship Programs and Resources for Developing Mentoring Programs” pages of the website.

Below is a sample list of possible documents to be included within that section.

- How to Find and Approach a Mentor
- How to Write a Curriculum Vita
- How to Write a Cover Letter
- How to Apply for Funding
- How to Write a Manuscript
- How to Request References
- Career Exploration
- Feature Members/Careers

Promotions

The Mentorship Program represents an ideal opportunity to renew or establish liaisons with different institutions across British Columbia to provide exposure to this resource and also increase awareness of BCEOHRN.

Promotions ideally could be initiated after the modifications and additions to the Mentorship Program section of BCEOHRN’s website. Following which, promotion and exposure to students can occur as the various new aspects of the program develop. In this manner, the program expansion can occur simultaneously to student membership growth with an established amount of content to attract individuals.

Various promotion methods can be effective. Within the organization, e-mail announcements of the program’s activities and presentation at the AGM can popularize the program within BCEOHRN. To expand the reach of the program in gaining participants, existing listservs should provide a foundational outreach. Also suggested is approaching various departments at different institutions so that faculty and advisors are aware of the service for students, as well as career counselling centres. Further, promotion can occur through liaison with different established student and professional groups which are relevant to the field of environmental and occupational health, as members within the field would share interest in activities of the BCEOHRN Mentorship Program.

In terms of procedure, a first advertisement effort can be through a BCEOHRN e-mailing to its members

detailing the program and encouraging member activity. This can be a maintained effort to be included within the BCEOHRN bi-weekly updates. Also, a long term collection of relevant contacts of different institutions and organizations and liaison with these individuals will establish familiarity between organizations and gain referrals.

Occupational and Environmental Health Careers Event

To promote student exposure and exploration of different professional paths, BCEOHRN can facilitate an event to gather members of different professions to present their careers. Presenters can provide students with education and skills needed for various positions or students can be hear different perspectives of the same career. This event can be seminar style to be included in the Annual General Meeting or the Spring Workshop of BCEOHRN's schedule.

Student Guest Lecture Series

An additional feature which can be added to the Mentorship Program is a Student Guest Lecture Series. This opportunity can provide students experience in sharing their research with others and gain outreach and leadership skills as well as develop presentation experience. Ideally, a system can be established to provide regular opportunities for students from all fields in environmental and occupational health research to present.

Audiences for students can be peers at the graduate or undergraduate level, with further outreach to students at the secondary school level. This provides a further benefit to expose students at a younger education level to environmental and occupational health. At the same time, as students are passing knowledge to junior students, it promotes the presenter to become better aware of their field and its resources.

Initially, the program can be set up such that students interested in presenting their research topics may submit a summary to provide an overview of their subject area, and BCEORHN can collect a database of interested presenters. Meanwhile, liaisons can be made with different instructors at various institutions to seek interest in receiving guest student speakers.

A beta program can be formed to establish a secondary school guest speaking opportunity, initially by approaching one or few schools, and to later expand upon that system by publicizing to the schools of the availability.

Establishing this initiative would provide a community outreach role through BCEOHRN, increase awareness and knowledge of the field and provide a beneficial opportunity for its participants.

Internships

The establishment of internships through BCEOHRN would provide an excellent opportunity for its student members to gain industry ties and work experience. The formation of internship opportunities would be an elaborate set up as each company requires independent inquiries to establish a liaison and a system for BCEOHRN student members to hold positions with them. The process would be gradual and in the long term, gaining a roster of companies willing to take on students and maintaining a list of position openings.

The establishment of internships would require certain coordination to be adopted by BCEOHRN before approaching companies. Firstly, internal documents should be set up to facilitate the connection between a student and an organization. On the end of the student seeking a position, certain preliminary preparation should be established to develop a sense of direction in the experience the student wishes to gain. Preliminary forms to initiate dialogue with the student regarding this matter, and other application needs such as the student resume or CV should be submitted to both BCEOHRN and the organization to

which being applied. Similarly, the organization should offer positions which are relevant to students and would offer some beneficial rewards in terms of career preparation. The organization should also be able to provide feedback to the student on their performance in the internship. Both the student and the organization should also complete an evaluation of the set up of the Internships through BCEOHRN. Further, the post should also be followed up by the coordinator throughout the term to ensure a positive experience for both parties in the duration.

Workshops and Seminars

Many mentorship programs offer workshops and seminars for participants. Interactive activities have the benefit of addressing student needs which are particular to the specific group or specific student. Workshops in general are flexible in how they can be conducted, whether on location at different institutions or through WebEx. These are events the Mentorship Program can organize periodically on professional development related topics and provide an easy way to involve students and promote participation.

Due to their flexibility, professional development workshops can occur online, via teleconferencing or on location depending on the specific need. Further, many on location presentations have seen digital distribution via WebEx recording of BCEOHRN activities already. Certain workshop topics can be cycled regularly such as conducting interview practices or CV critique and editing. Others can be special topics which seem to have high levels of interest hosted by guest speakers at the introductory level, such as GIS usage, theoretical basics of different health topics, etc.

Other Topics

An original goal for the Mentorship Program set out by its Working Group was to provide grant reviews. Currently, BCEOHRN has fulfilled this goal for grant reviews through the role of the Research Capacity Officer, Tanya Wahbe.

Another possibility to investigate through the Mentorship Program is to find utilities and resources that students may not be able to have access to but can gain through the membership, such as access to certain libraries and resources or journal subscriptions. This can be facilitated either through BCEOHRN coordinating inter-institutional pooling of resources. As institutions across BC do not all have the same resource availability, the benefit of this initiative can open up additional resources for participants and encourage their cultivation.

Finally, to celebrate and recognize individuals participating in various aspects of the Mentorship Program, an award system can be implemented. A simple nomination system to recognize outstanding mentors or students involved in the program can be validating and also engaging to participants. Performance indicators for outstanding mentors in MSFHR have been determined and adjudication can be based upon those existing guidelines.

Evaluation

Feedback and input is important to the further development of the Mentorship Program in its early stages. As such, ongoing meetings with the working group, including team leaders or members at large should be maintained. Further, if the database modifications are implemented, that provides another dataset to gain information. Finally, BCEOHRN evaluation forms can include an additional portion for feedback and critique for the Mentorship Program.

Appendix

Student Interview Survey

1. What is your current level of education?
2. In your education/professional history, have you received one-on-one mentorship from a senior individual?
 - a. If so, please describe the context (level of education, how it was arranged, was it for any specific purpose - project, through any particular program, etc)
 - b. What was the nature of the interaction (assistance in writing grants, career counselling, shadowing, etc)
 - c. What were some benefits from the interaction?
 - d. What improvements can be made to increase the usefulness from that mentorship?
3. In your education/professional history, have you received peer mentorship from either one or multiple individuals?
 - a. If so, please describe the context (level of education, how it was arranged, was it for any specific purpose - project, through any particular program, etc)
 - b. What was the nature of the interaction (mutual interest in academics, professional guidance, etc)
 - c. What were some benefits from the interaction?
 - d. What improvements can be made to increase the usefulness from that mentorship?
4. How useful do you find the concept of mentorship?
5. What do you think about the function of Special Interest Groups at BCEOHRN? If you have participated in them, do you have any opinions on what is working well for them and what is not?
6. Have you noticed the search function in the Member Database which allows you to search for members willing to act as mentors?
 - a. If so, have you used it and what were the outcomes?
 - b. If not, have you thought about using it, and what was the barrier?
7. What is the ideal relationship you would like with a senior mentor (Assistance in grant writing, or career counselling, etc)?
8. What is the level of involvement you would like to have with a mentor and conversely a mentor with you (occasional emailing, meeting in person, rare or frequent encounters, etc)
9. What are some special considerations that you think are relevant for your education level?

10. Are there any specific resources that the mentorship program should provide? (CV building, workshops, etc)
11. Have you ever participated in an internship program?
 a. If so, what sort of roles did you have as an intern and what did you gain from it?
 b. If not, would you be interested in internships and what do you hope to gain from it?
12. With a mentorship program in place, do you have any recommendations on how to best promote the program to your peers?

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