



## The Internet Journal of Allied Health Sciences and Practice

<http://ijahsp.nova.edu>

A Peer Reviewed Publication of the College of Allied Health & Nursing at Nova Southeastern University

*Dedicated to allied health professional practice and education*

<http://ijahsp.nova.edu> Vol. 9 No. 2 ISSN 1540-580X

---

### Meeting the Clinical Education Needs of Community-Based Preceptors: An Environmental Scan to Identify Format and Content for a New Web-Based Resource

---

Rosemin Kassam, B.Sc.Pharm., PharmD<sup>1</sup>

Elizabeth MacLeod, M.Sc., RSLP<sup>2</sup>

John Collins, PhD<sup>3</sup>

Glynnis Tidball, M.Sc., RAUD<sup>4</sup>

Donna Drynan, B.Sc. (OT), MEd<sup>5</sup>

Lois Neufeld, RN<sup>6</sup>

Mona Kwong, B.Sc. (Pharm), M.Sc.<sup>7</sup>

1. Associate Professor, Faculty of Pharmaceutical Sciences, The University of British Columbia, Vancouver, BC
2. Senior Instructor Emerita, School of Audiology and Speech Pathology, The University of British Columbia, Vancouver, BC
3. Adjunct Professor, Department of Educational Studies, The University of British Columbia, Vancouver, BC
4. Department of Audiology, St. Paul's Hospital, Vancouver, BC
5. Clinical Associate Professor, Academic Fieldwork Coordinator, OS & OT Department, The University of British Columbia, Vancouver, BC
6. Staff Development Educator, Penticton Regional Hospital, Penticton, BC
7. Lecturer, Coordinator Structured Practice Education Program, Faculty of Pharmaceutical Sciences, The University of British Columbia, Vancouver, BC

Canada

---

**CITATION:** Kassam, R., MacLeod, E., Collins, J., Tidball, G., Drynan, D., Neufeld, L., Kwong, M. Meeting the Clinical Education Needs of Community-Based Preceptors: An Environmental Scan to Identify Format and Content for a New Web-Based Resource. *The Internet Journal of Allied Health Sciences and Practice*. April 2011. Volume 9 Number 2.

---

#### ABSTRACT

This study gathered world-wide information about web-based clinical teaching resources, identified gaps in these resources, and analyzed preceptor clinical education needs as first steps in creating a series of web-based clinical education modules. In addition to an environmental scan of web-based resources, a needs assessment survey was created, distributed, and analyzed. Participants in the survey, representing ten healthcare professions throughout British Columbia, Canada, identified the content that would be most relevant to them and the optimal length of web-based modules. The study identified 15 web-based clinical education topics common across four English-speaking countries and linked them to 31 province-wide learning needs surveyed across ten categories of allied health professionals. The results indicated a strong interest among preceptors in using a web-based resource and provided initial groundwork about the topical content and structural formats for the next phase of the project which will be to develop and evaluate a series of web-based clinical teaching modules.

---

#### INTRODUCTION

Clinical fieldwork experience, under the guidance and teaching of community-based clinicians, is an essential part of the preparation of health care professionals. Post-secondary education programs (PSEs) for health professionals rely on community clinicians to help students develop their clinical skills as they model techniques, provide guidance and feedback, and evaluate

student performance. Preparing health care professionals for their roles as clinical teachers, or preceptors, and supporting them during this process has long been a challenge, and PSEs wrestle with how best to ensure that preceptors are well-prepared for clinical teaching.<sup>1</sup> With little time to devote to developing their clinical teaching skills and often limited opportunities, busy health care professionals may lack confidence in their teaching abilities and may therefore be reluctant to take on a teaching role.<sup>2</sup> Assisting health care professionals to develop their teaching knowledge and skills will likely increase their confidence as teachers and, as a result, better enable clinicians to take on this vital role and carry it out more effectively. Critically important is to develop clinical teaching resources that meet the specific needs and interests of these preceptors.

Currently, PSE health care training programs make use of a variety of approaches to orient their preceptors to the student fieldwork experience. Typically, these methods involve face-to-face clinical education seminars or workshops, handbooks outlining teaching and evaluation procedures, one-on-one discussions of clinical teaching methodology, and/or articles or books on clinical education and clinical supervision.<sup>3-8</sup> The challenge of these traditional methods are three-fold: time, cost, and accessibility.

Health care professionals rarely have time to develop their teaching skills and there are typically limited financial resources available for this purpose. Precious continuing education time and dollars are more likely to be directed to advancing clinicians' knowledge and skills within their particular disciplines.<sup>9</sup> With increasing class sizes, PSEs are under increasing pressure to find new fieldwork opportunities for students.<sup>9,10</sup> These new fieldwork sites are often in smaller communities and away from major centers, leading to a third challenge of accessibility. For health care professionals in remote or rural locations, attending clinical education seminars is often impossible and they may not have experienced colleagues to provide mentorship in clinical teaching.

With now almost universal access for most health care professionals, the internet can be an ideal platform for delivering effective and accessible clinical teaching content. Anecdotal discussions with preceptors and clinical fieldwork coordinators affiliated with the University of British Columbia suggested that a readily accessible, introductory, interactive, web-based clinical education resource was needed.

To assist with the development of such a web-based resource, funding was secured from the British Columbia Ministries of Health and Education under the auspices of the British Columbia Academic Health Council. The project consisted of two Phases: Phase 1 – an environmental scan, and Phase 2 – design of a web-based resource. The objectives of Phase 1's environmental scan were to: 1) conduct a review of the content (educational topics covered) and format (login processes, interactivity, and time commitment) used by currently available web resources to support clinical education for health professionals, 2) carry out a needs assessment survey to determine specific learning needs and interests of health professional preceptors in the province of British Columbia, Canada, and 3) triangulate findings from the web review with the needs assessment to identify gaps in current web-based resources and to inform the design of a web-based resource in the future Phase 2. This paper discusses findings from the Phase 1 – the environmental scan.

## **METHODS**

Phase 1's environmental scan was an exploratory study to inform the design of a web-based resource for health professional preceptors. The study was conducted between March and June 2007 and consisted of three steps: a review of existing web-based resources throughout the English-speaking world, a needs assessment survey of ten allied health professions throughout British Columbia, and an examination of the two data sources to reveal both commonalities and gaps. The project's 6-person development team included three health care educators from the University of British Columbia, a community-based health care educator, a software development expert, and a project manager. Ethics approval for the project was obtained from the University of British Columbia's Behavioral and Research Ethics Board.

### **Review of Existing Web-Based Clinical Education Resources**

The first step in the project was to identify and review existing web-based clinical education resources targeting health professionals. Web resources were selected for review if they were written in English, they addressed more than one learning topic and if permission was granted by the author(s) to access the site free of charge. A two-step process was used by the development team to identify these resources: 1) a Google search using relevant search terms (e.g., clinical teaching/education, preceptor education) was carried out, and 2) Web links from health profession education programs in Canada, the United States, the United Kingdom, and Australia were requested. The resources were reviewed with regard to content (educational topics covered) and format (login processes, interactivity, and time commitment).

### Needs Assessment Survey

A needs assessment survey was developed for online distribution using Survey Monkey®, a free online survey software and questionnaire tool.<sup>11</sup> Participants were invited to complete the survey by email, along with the following information: 1) funding had been received to develop a web-based clinical education resource targeting a multidisciplinary health professional preceptor audience, 2) the resource was to provide an introductory level of knowledge and skills in the area of clinical education and to create an awareness of essential strategies for a successful fieldwork placement experience, and 3) the intent of the survey was to solicit input regarding possible topics and preferred format to receive such education via the web.

The survey was informed by items used by other unpublished surveys, review of existing web-based resources, and input from the development team. In total, the survey consisted of 14 questions (including some with sub-questions). In the first 13 questions, 4 themes were addressed: 1) professional profile information (7 questions); 2) experience supervising students (3 questions); 3) exposure to preceptor education programs (2 questions); 4) interest in online learning and optimal online learning timeframe (4 questions). For each question, respondents selected the most applicable response from a selection of 2 – 11 options. The 14<sup>th</sup> question listed a series of topics which were framed around five clinical education themes: 1) setting the stage for clinical teaching (9 topics); 2) building trust and relationship through communication (4 topics); 3) effective teaching strategies (9 topics); 4) effective feedback (6 topics); and 5) evaluating performance (3 topics). For each topic, participants were asked to respond on a 3-point scale, indicating their degree of interest in each topic (2= very interesting to me; 1= somewhat interesting to me; 0=not interesting to me). To ensure anonymity no personal identifier was collected.

### Participants

The review of existing web-based resources was carried out by five members of the development team: the three health care educators from the University of British Columbia, the community-based health care educator, and the software development expert. For the survey, purposive sampling and snowballing techniques were used to recruit respondents. Fieldwork coordinators associated with the College of Health Disciplines at the University of British Columbia were invited to distribute the needs assessment survey to their respective community-based preceptors within British Columbia. The professions represented were pharmacy, speech-language pathology, audiology, physical therapy, occupational therapy, social work, dietetics, medicine, nursing, and midwifery. Additionally, decision-makers affiliated with other health and allied health post-secondary institutions and with hospital/community clinical settings were asked to use their professional networks to help distribute the survey.

### Analysis

The web-based resources were grouped according to country. The content covered by each resource was categorized under common educational topics and summarized (frequencies and percentages). The similarities and differences in format utilized by the various web-resources were noted. The needs assessment survey results were quantitatively summarized (frequencies and percentages) and responses to open-ended questions were grouped under common themes. Survey Monkey® offered the flexibility to download the final results onto a spreadsheet (Microsoft Excel 2000), allowing for efficient collation and evaluation of the feedback. Quantitative data and open-ended responses were reviewed by the development team.

## RESULTS

### Review of Existing Web-Based Clinical Education Resources

Fifteen common topics were identified among the eight web-based resources that met the established criteria.<sup>12-19</sup> Three web sites were located in Canada, three in the US, and one each in the UK and Australia (Table 1). While all the resources contained rich content material, only two were designed to address a range of teaching topics relevant to a multidisciplinary group of health care preceptors.<sup>14,15</sup> The remaining five covered topics directed to specific health care groups, such as medicine, pharmacy, and nursing.<sup>12,13,17-19</sup> The most common clinical education topics covered by the eight resources included student orientation, teaching and learning styles, giving feedback, clinical reasoning and reflection, evaluation, the struggling student, and dealing with conflict. Other topics that were addressed but appeared in only one or two resources were generational differences, communication skills, developing cultural competency, inter-professional collaboration, and ethics.

The different locations also used varying formats and few had extensive interactivity. Four of the eight resources were largely text-based, requiring extensive reading but offering limited to no opportunity for interactivity or self-evaluation.<sup>13,14,18,19</sup> The length of time to complete the different educational topics also varied widely, ranging from a few minutes to several hours. Lastly, six of the resources were readily accessible requiring no login, with only two requiring users to go through a login or other registration procedure.<sup>12-19</sup>

**Table 1. Clinical Education Topics Represented in Eight Web-Based Resources**

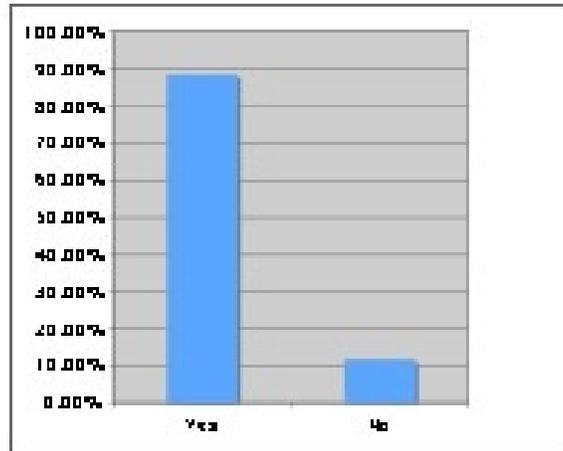
Topics (Abbreviations)		Country of Origin				Inclusion Rate (Rounded % )
		Cdn (3)	US (3)	UK (1)	Aus (1)	
Preparing for and orienting students	OS	2/3	3/3	1	1	88
Giving Feedback	GF	2/3	3/3	1	1	88
Evaluating student performance	ES	3/3	2/3	1	1	88
Learning Styles	LS	1/3	3/3	1	1	75
Teaching Styles and Strategies	TS	1/3	3/3	1	1	75
Dealing with conflict	DC	2/3	1/3	1	0	50
Reflective practice	RP	1/3	1/3	1	0	38
Struggling Student	SS	1/3	0	1	1	38
Effective communication	EC	1/3	1/3	1	0	38
Developing teaching goals	DG	1/3	1/3	1	0	38
Inter-professional Collaboration	IC	1/3	1/3	1	0	38
Clinical reasoning	CR	2/3	0	0	0	25
Cultural competence	CC	1/3	1/3	0	0	25
Ethics for preceptors	EP	0	1/3	0	0	13
Generational Differences	GD	1/3	0	0	0	13
Totals (N=15)		14/15	13/15	11/15	6/15	--

### The Needs Assessment Survey

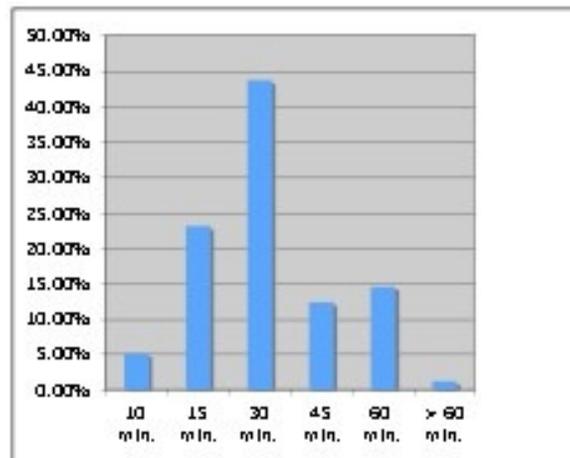
The needs assessment survey resulted in 573 completed questionnaires. Responses were distributed to and received from preceptors throughout British Columbia and from the disciplines of speech-language pathology (SLP=19.0%), pharmacy (Pharm=16.9%), physical therapy (PT=14.0%), nursing (RN=15.7%), occupational therapy (OT=15.4%), and audiology (6.6%), while social work, dietetics, medicine and midwifery each represented less than 1% of respondents. The majority of respondents identified themselves as practitioners from within the greater Vancouver, British Columbia area. Most respondents worked in publicly-funded agencies, either an institution or community site. Privately-funded community or institutional sites accounted for another 14%. Respondents identified a variety of areas of practice: adult education, pediatric health, geriatric/long-term or palliative care, community health, health promotion, and mental health. Most of the respondents indicated that they supervised one to two students per year although a surprising 9.3% reported supervising more than 10 students each year. Of the respondents who had previously accessed preceptor education programs, over half had done so through workshops and through discipline-specific placement manuals and about a quarter each through institutional/agency placement resources or through post-secondary educational resources.

In order to establish interest in using an online resource and to determine the optimum length of such a program, respondents reported whether they would use an online program and how much time they would devote to web-based learning modules. Of those reporting, a large majority indicated they would use a web-based education program (Figure 1) and that the optimal time to complete such a module would be between 15 and 30 minutes (Figure 2).

**Figure 1. Would you use a web-based preceptor education program if it were available? (N=501)**



**Figure 2. What is a reasonable length of time for you to spend completing an online learning module at one sitting? (N=494)**



To determine the topics that were of greatest relevance to preceptors across the professions, respondents were asked to indicate from a list of 31 potential topics those that would be most useful to them in their clinical teaching. Seventy six percent (438) of the respondents provided this information. Of the 31 pre-specified topics, 23 were identified as “very interesting” by more than 50% of the respondents (Table 2).

**Table 2. Needs Assessment Interest Levels and Comparisons with Web-Based Resources.**

Thirty-One Needs Assessment Survey Topics (Matches with Web-Based Resources in Bold)	Preceptors Rating Each Topic "Very Interesting" (Rounded Percentages) (N=438)	Matches with Web-Based Resources (N=8)	
		Abbreviation From Table 1	Inclusion Rate
<b>Fostering clinical reasoning</b>	81%	<b>CR</b>	<b>25</b>
Assessing students learning needs	79		
Fostering critical thinking	78		
Asking the right questions	77		
Evaluating self as mentor	75		
<b>Strategies for evaluating students</b>	72	<b>ES</b>	<b>88</b>
Developing learning activities based placement objectives	69		
<b>Strategies for giving and receiving feedback</b>	69	<b>GF</b>	<b>88</b>
<b>Fostering reflective practice</b>	68	<b>RP</b>	<b>38</b>
The teachable moment	68		
<b>Dealing with problems: struggling students, unavailable preceptors, etc.</b>	66	<b>SS</b>	<b>38</b>
Strategies for motivating students	65		
<b>Dealing with conflict</b>	62	<b>DC</b>	<b>50</b>
Optimizing time management	58		
<b>Difference between feedback, formative evaluation and summative evaluation</b>	58	<b>ES</b>	<b>88</b>
Understanding preceptor and student roles and expectations	56		
<b>Principles of adult learning: differences in learning and teaching styles</b>	56	<b>TS</b> <b>LS</b>	<b>75</b> <b>75</b>
Descriptive vs. evaluative observations	55		
Evaluating setting as a learning environment	54		
<b>Tips and strategies for organizing and planning</b>	52	<b>DG</b>	<b>38</b>
Focusing your observations	52		
Integrating the student into the work environment	50		
<b>Understanding the 4 communication styles</b>	50	<b>EC</b>	<b>38</b>
<b>Recording your observations</b>	45	<b>ES</b>	<b>88</b>
Enablers/Facilitators	45		
Differences between Instructor, Facilitator, Coach	42		
<b>Dealing with Cultural Sensitivity</b>	40	<b>CC</b>	<b>25</b>
<b>Understanding Generational Diversity</b>	40	<b>GD</b>	<b>13</b>
<b>Different Placement Models/Inter-professional</b>	35	<b>IC</b>	<b>38</b>
<b>Student Orientation and welcome</b>	34	<b>OS</b>	<b>88</b>
Professional Boundaries: Students vs Preceptors	31		

In Table 2, the topics in **boldface** highlight equivalent topics appearing in the review of web resources. While the wording was not always identical and sometimes there are a few multiple cross-matches (ES, for instance), the thematic content was comparable. Only “Ethics for Preceptors” web-based topic had no counterpart among the needs analysis topics. Thus, both the web resource review and the needs analysis concurred on a full range of the clinical education topics. Further, 13 of the needs assessment survey topics did not appear to have immediately equivalent counterparts among the 15 web resource topics, indicating potential gaps to be considered in the Project’s Phase 2: Design of a Web Resource. These topics included: (a) *developing learning activities based on placement objectives*, (b) *assessing learning needs*, (c) *distinctions between critical thinking and clinical reasoning*, (d) *preceptor/student roles and expectations and attendant professional boundaries*, and (e) *how best to integrate students into the work environment*. Examining the relative importance assigned by preceptors in the needs analysis, using a relatively stringent 50% inclusion criterion, 23 of the 31 topics were considered to be “Very Interesting”; a more relaxed inclusion rate of 25% would have included them all.

While it was not an a-priori objective of this project to focus on individual disciplines, it was helpful to note similarities and differences across the disciplines most represented in this survey (OT, SLP, RN, PT, and Pharm) in terms of the five clinical educational themes. An arbitrary cut-off point of 60% was used to reflect wide endorsement for a specific topic. For the Setting the Stage theme, the two topics that were endorsed by all five disciplines included “Evaluating yourself as a mentor” (RN=82%; OT=81%; PT=78%; SLP=76%; Pharm=63%) and “How to assess your students’ learning needs” (OT=86%; RN=83%; SLP=80%; PT=79%; Pharm=69%). Topics identified as very interesting by two or more of these disciplines included “Developing learning activities based on the objectives of the placement” (RN=76%; OT=74%; PT=72%; Pharm=63%); “Understanding preceptor and student roles and expectations” (RN=69%; OT=63%; PT=60%); and “Understanding principles of adult learning” (RN=63%; PT=63%). For the Building Trust and Relationship Through Communication theme, no topic received wide endorsement by all five disciplines, but one topic, “Dealing with conflict,” received approval from three of the disciplines (RN=83%; PT=68%; Pharm=61%). For Effective Teaching Strategies theme, the three widely endorsed topics included “Fostering critical thinking” (RN=81%; OT=87%; PT=79%; SLP=76%; Pharm=75%); “Fostering clinical reasoning” (RN=79%; OT=88%; PT=86%; SLP=81%; Pharm=78%); and “Asking the right questions of your students” (RN=81%; OT=83%; PT=75%; SLP=81%; Pharm=69%). Topics endorsed by two or more of the disciplines included “Strategies for motivating students” (RN=82%, PT=71%; OT=62%) and “Fostering reflective practice” (OT=78%; RN=69%; PT=69%; SLP=68%). For the Effective Feedback theme, the topic “Strategies for giving feedback to and receiving feedback from students” received wide approval (RN=72%; PT=72%; SLP=68%; Pharm=67%; OT=65%). One topic received approval by four of the disciplines “Dealing with problems: the struggling student, the unavailable preceptor” (RN=78%; OT=69%; PT=68%; Pharm=61%). For the final theme, Evaluating Performance, the topic “Strategies for evaluating students” received full endorsement (RN=82%; OT=77%; PT=75%; SLP=64%; Pharm=63%). However, the topic “The teachable moment: taking advantage of small opportunities for big learning” was endorsed by four of the disciplines (RN=74%; OT=69%; PT=74%; Pharm=64%), and the topic “What is the difference between feedback, formative evaluation, and summative evaluation” was endorsed by two of the disciplines (OT=66%; PT=65%). The remaining topic received approval from either one of the five disciplines or none of the disciplines. Based on the results, topics identified as particularly relevant to preceptors should be considered in the development of future web-based clinical education modules.

## DISCUSSION

The objectives of Phase 1 were 1) to identify current web-based resources for clinical educators along with their topical contents and delivery formats, 2) to establish British Columbia community-based preceptors’ willingness to engage in web-based learning and their level of interest in the most relevant topical content, and 3) to triangulate the importance of what is currently available on the web with preceptors’ needs and interests while identifying gaps in current web-based clinical education resources that might be fulfilled by better crafted future web resources.

The review of web-based resources suggested that currently there were no online clinical education resources that addressed content relevant to a range of health care professionals in engaging, interactive, accessible, and time-efficient formats. The needs assessment survey confirmed that there was considerable interest in using web-based clinical education approaches and a number of clinical teaching topics were identified as key learning needs for preceptors in British Columbia. Based on the needs assessment survey, the majority of respondents indicated a general interest in completing online clinical education modules, a preference for completing modules that are relatively short, i.e., no longer than 30 minutes, and a common interest in a number of topics.

The web resource review and the needs assessment survey provided basic raw material for developing both the content and the format of web-based clinical education modules that will meet the needs of the community-based clinicians. Across all disciplines and clinical education themes, the topics rated as “very interesting” by more than 60% of the preceptor respondents included fostering clinical reasoning; assessing students learning needs; fostering critical thinking; asking the right questions; evaluating

self as mentor; strategies for evaluating students; developing learning activities based on placement objectives; strategies for giving and receiving feedback; fostering reflective practice; the teachable moment; dealing with problems (struggling students, unavailable preceptors, etc.); strategies for motivating students; and dealing with conflict.

However, preceptors themselves are not always the source of final wisdom about what is important and what is not. For instance, more than 10% of these preceptors labeled the following three topics as “not interesting” and across the disciplines most represented (OT, SLP, RN, PT and Pharm) endorsement was less than 60%: student orientation and welcome; professional boundaries -- preceptor/student roles and expectations; and different placement models including inter-professional placements, in addition to some from the web resource review (Table 3). Yet clinical education curriculum developers would scarcely eliminate these topics from preceptor training simply because some few thought them to be “not interesting”.

**Table 3. Ten Needs Assessment Topics Most Often Judged “Not Interesting” but Warranting Consideration.**

<b>Needs Assessment Topics (Web-based Resource Scan Topics in Bold)</b>	<b>Percent Reporting “Not Interesting”</b>
<b>Student Orientation and Welcome</b>	16%
Professional Boundaries: Preceptor/Student roles and expectations	15
<b>Different Placement Models/ Inter-professional Placements</b>	15
Enablers / Facilitators	9
Differences Between Instructor, Facilitator, Coach	9
<b>Understanding Generational Diversity</b>	8
<b>Dealing with Cultural Sensitivity</b>	8
<b>Recording your Observations</b>	7
<b>Tips and Strategies for Organization and Planning</b>	7

The aim of Phase 2 of the project will be to first review the literature to determine the optimal look and feel, navigation, and interactivity components of web-based learning resources. The next step will be to select topics that are both core elements of preceptor education, as evidenced in the review of online resources, and reflective of the learning needs of the target audience as identified in the needs assessment survey. It is anticipated that triangulation of data from two sources – the review of online resources and the needs assessment survey, will increase the likelihood of meeting the learning needs of a wide range of preceptors. This process will then consist of identifying topics rated by more than 50% of participants as “very interesting to me” and cross-referencing with existing resources. The next step will be to organize the topics of greatest interest into a set of modules, create the design interface and interactivity components and develop the content for each module. The final steps will be to develop a process for evaluating the modules and analyzing the results.

### LIMITATIONS

The results of the needs assessment survey are specific to preceptors based in British Columbia, Canada, and it may not be possible to generalize the results to all preceptors in all other geographical regions. One might expect, however, that there would be some overlap of interest in clinical teaching topics with those of preceptors in other regions, given the commonality of clinical education topics covered in web-based clinical teaching resources originating from other parts of the world.<sup>12,14,16,17,19</sup>

### CONCLUSION

The review of online resources and the needs assessment survey identified the gaps in currently available web-based clinical education modules and identified the content of greatest relevance to preceptors in British Columbia. These data provide the foundation for creating a new web-based clinical education resource that will meet the needs of community-based preceptors in British Columbia and elsewhere. By triangulating with data from multiple sources, this study has identified a basic set of clinical education topics that need to be reinforced in future web-based programs.

### ACKNOWLEDGMENTS

The authors would like to acknowledge and thank the community-based preceptors who took the time to complete the survey and the fieldwork coordinators affiliated with the College of Health Disciplines, UBC, who assisted in distributing the survey. The authors also acknowledge the B.C. Academic Health Council and the B.C. Ministry of Health and Education who assisted with funding and management for this project.

## REFERENCES

1. Higgs J, McAllister L. The lived experiences of clinical educators with implications for their preparation, support and professional development. *Learning in Health and Social Care*. 2005;4(3):156-71.
2. Danielsen R. Is clinical precepting a lost art? *Clinician Reviews*. 2008;18(7):1-30.
3. Dyer J, Pardue K. Preparing preceptors to precept: Strengthening the partnership between education and practice. *Creat Nurs*. 1999;5(4):12-4.
4. Henderson A, Fox R, Malko-Nyhan K. An evaluation of preceptors' perceptions of educational preparation and organizational support for their role. *J Contin Educ Nurs*. 2006 May-Jun;37(3):130-6.
5. Arena G, Arnolda L, Lake F. Addressing the needs of clinical teachers: Action research. *The Clinical Teacher*. 2008;5:148-53.
6. Boyle C, Morgan J, Layson-Wolf C, Rodriguez de Bittner M. Developing and implementing an academy of preceptors. *Am J Pharm Educ*. 2009;73(2):Article 34. PubMed PMCID: PMC2690885
7. Smedley A, Penney D. A partnership approach to the preparation of preceptors. *Nursing Education Perspectives*. 2009;30(1):31-6.
8. Alspach G. Calling all preceptors: How can we better prepare and support you? *Crit Care Nurse*. 2008;28(5):13-6.
9. Edmond C. A new paradigm for practice education. *Nurse Education Today*. 2001 May;21(4):251-9.
10. Smith N. A menu to provide quality community placements. *The Clinical Teacher*. 2008;5(3):176-80.
11. Survey Monkey; c1999-2010. Available from: <http://www.surveymonkey.com/>
12. *CEI Collaborative Education Project* [Internet]. Iowa: University of Iowa College of Pharmacy, Drake University College of Pharmacy and Health Sciences, and the Iowa Pharmacy Association. [Updated 2010 Nov; cited 2010 Nov 10]. Available from: [www.theCEInstitute.org](http://www.theCEInstitute.org)
13. *Centralized Preceptor Education Project CPEP* [Internet]. Alberta: University of Calgary Faculty of Nursing. [Updated 2007 Aug; cited 2010 Nov 10]. Available from: <http://www.cpep-net.ca>
14. *Making Practice-Based Learning Work* [Internet]. United Kingdom: Consortium of The universities of Ulster, Bournemouth and Northumbria [Updated 2008 Sept 4; cited 2010 Nov 10]. Available from: [www.practicebasedlearning.org](http://www.practicebasedlearning.org)
15. *Preceptor Education Program (PEP)* [Internet]. Ontario: University of Western Ontario Health Sciences. [Updated 2007 June 13; cited 2010 Nov 10]. Available from: [www.preceptor.ca](http://www.preceptor.ca)
16. *Expert Preceptor Interactive Curriculum* [Internet]. North Carolina: University of North Carolina School of Medicine. [Updated 1998 Oct; cited 2010 Nov 10]. Available from: <http://www.med.unc.edu/epic>
17. *Preceptor Development Program* [Internet]. Virginia: University of Virginia Health Systems. c1998-2006. [Cited 2010 Nov 10]. Available from: <http://www.med-ed.virginia.edu/courses/fm/precept/>
18. *Teaching Skills for Community Based Preceptor* [Internet]. British Columbia: University of British Columbia Faculty of Medicine. [Updated 2005; cited 2010 Nov 10]. Available from: [http://www.med.ubc.ca/faculty\\_staff/faculty\\_development/educational\\_material/teaching\\_skills\\_booklet.htm](http://www.med.ubc.ca/faculty_staff/faculty_development/educational_material/teaching_skills_booklet.htm)
19. *Teaching on the Run Tips* [Internet]. Australia: The University of Western Australia. [Updated 2009 Sept 16; cited 2010 Nov 10]. Available from: <http://www.meddent.uwa.edu.au/teaching/on-the-run/tips>