Interprofessional preceptor and preceptee educational programing: An interdisciplinary needs assessment

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Abstract

This paper presents the results of a needs assessment undertaken by an interdisciplinary team concerned with developing an interprofessional preceptor and preceptee education program for health professionals and students. The study draws on a pragmatic philosophical perspective, to undertake what Robson (1993) referred to as "real world research", with the aim of applying the results for practical purposes. The objective of the needs assessment was to identify which content areas were considered to be of greatest educational value to an interdisciplinary range of health professional preceptors and students. In addition, the needs assessment sought to ascertain whether preceptors and students would find such an education resource useful, and if they would use a web-based electronic resource, and to identify preferred formats of potential educational modules. The needs assessment involved three phases: a literature review, an environmental scan of available preceptor/preceptee education programs and the design and implementation of a preceptor/preceptee survey. The results of the study point to content areas in education and design that hold relevance for both preceptors and preceptees. The findings hold significance for others concerned with preceptor and student preparation, and informed the development of an open access, online interprofessional educational program (Bossers et al., 2007).

Keywords: preceptor, preceptor education, health professions education, fieldwork education, professional practice, clinical education, practicum education, preceptee, student learning, online education.

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Background and rationale

Academic programs face unique challenges in preparing students to become health professionals, such as the challenge of creating opportunities for students to integrate and apply knowledge within practice contexts and the challenge of developing educational programs that prepare preceptors to serve as educators for the student learning experience (Blum, 2009; Rogan, 2009; Taylor, Hasseberg, Anderson, & Knehans, 2010). The preceptorship teaching–learning model has become the leading approach to clinical education within the healthcare disciplines (Taylor et al., 2010; Usher, Nolan, Reser, Owens, & Tollefson, 1999). In the preceptorship model, students are assigned to work with an experienced practitioner in the field who acts as a mentor, role model and resource (Billay & Yonge, 2004; Myrick & Yonge, 2005). Preceptor teaching and learning experiences vary in length and can span multiple weeks or months, with students engaged in various healthcare locations, while immersed within the work setting and the preceptor/preceptee teaching relationship.

Due to the critical role of practice-based experience in the education of future healthcare professionals (Benner, Sutphen, Leonard, & Day, 2010), cultivating the art of preceptorship and supporting preceptors and students has long been recognised as essential for professional healthcare disciplines and academic programs (Godden, Bossers, Corcoran, Ling, & Morgan, 1992; Yonge, Hagler, Cox, & Drefs, 2008). According to Myrick and Yonge (2005), preceptors enact multiple roles, including teacher, role model, facilitator, guide, evaluator and guardian. Phillips (2006) further elaborated, "Preceptors' roles are complex and require skills in being clinical experts, knowledge experts, role models, learner facilitators, collaborators, coaches, interveners, learner advocates, and evaluators" (p. 150).

Rogan (2009) examined the perceptions of preceptors about their preparation for the preceptor role. The preceptors in their study rated knowledge about the following areas as essential to their preparation: preceptor roles, responsibilities and supervision; setting priorities; critical thinking; evaluation; goal setting; and understanding student learning needs.

A number of studies highlight the importance of preceptor preparation and education (Luhanga, Dickieson, & Mossey, 2010; Taylor et al., 2010). Speers, Strzyzewski and Ziolkowski (2004) stressed that when preceptors were prepared for their role, their experience was more positive, thereby diminishing the potential of preceptor burnout. Similarly, Kemper (2007) suggested that preceptor preparedness results in improved quality of placement for the student.

The most common strategies to prepare preceptors and students have been manuals and workshops (Kassam et al., 2011; Yonge & Myrick, 2004). Within the current fast-paced, under-resourced healthcare environment, scheduling and attending workshops has been identified as a challenge (Riley-Doucet, 2008). As well, healthcare professionals who work in smaller healthcare agencies and/or rural practice settings have an added obstacle in accessing and attending preceptor education programs, which are most frequently offered in larger urban settings (Marriott et al., 2005; Myrick, Caplan,

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Smitten, & Rusk, 2011). Myrick et al. (2011) suggested great potential for preceptor preparation using an online environment. They found that the online environment did support and prepare preceptors, and was flexible, convenient and cost effective. Marriott et al. (2005) suggested that an online preceptor preparation program can be used by a number of disciplines that utilise the preceptor model for education in practice settings.

Over the past decade, online education has become an effective teaching tool that allows material to reach a geographically dispersed field (Myrick et al., 2011). A number of studies have examined the learning needs of preceptors, with findings suggesting that online learning across a variety of topics is applicable and effective for various professionals (Kassam et al., 2011; Myrick et al., 2011; Smedley, 2008; Taylor et al., 2010). Identified strengths of online programs include the capacity to be learner-centred and to address a diversity of learning styles, having the advantages of accessibility, convenience, flexibility and the ability to complete the program at the individual's own pace, while ensuring consistency within the content that is delivered (Phillips, 2006).

Few studies, however, have examined the preparation of the student through online learning. Yonge and Myrick (2004) suggested that student preparation is equally important to preceptor preparation because both the preceptor and the student require education regarding the preceptorship process and relationship. Nonetheless, the preparation of students for placements is often secondary to other curriculum demands or viewed as separate from the preceptor preparation process. Yonge and Myrick suggested further that students need to understand the preceptor/preceptee relationship in order to prepare themselves to be partners and to maximise their learning experiences while in practice. In addition, after graduation, the role shifts towards the expectation of serving as a future preceptor for other students who are entering the profession. The preceptorship model is an essential teaching–learning model within practice, yet there are limited resources available to support joint preceptor *and* student programs (Myrick et al., 2011).

As described above, academic programs in the health professions face unique challenges in preparing students for practice and in preparing practitioners to adopt the preceptor role. These challenges were consistent with those identified by the research team. The team was comprised of representatives from various healthcare disciplines, including nursing, occupational therapy, physiotherapy and speech language pathology, from two academic settings. The team also included a preceptor from the local health unit, an epidemiologist and a student representative. The team members recognised that they were teaching similar content in their respective fields, such that the content of preceptor education appeared to transcend disciplinary boundaries. In addition, the members faced ongoing practical challenges in the delivery of such educational programing to busy professionals and students. The group gathered with the aim of exploring the possibility of developing a learning resource that was interprofessionally relevant, free to access, responsive to both rural and urban settings and one that could meet the needs of preparing both preceptors and students for their respective roles.

ISSN 1442-1100

Given these aims, it was clear that it was first necessary to study the current context. Therefore, a needs assessment was undertaken to identify educational needs. The primary question of the needs assessment was: What content do preceptors and students from multiple health professions and both urban and rural environments identify as of greatest value in preceptor/preceptee educational programing?

Methodology: Needs assessment

This study draws on a pragmatic philosophical perspective, with the aim of applying the results for practical purposes. In this sense, the work undertakes what Robson (1993) referred to as "real world research". The development and implementation of the needs assessment involved six stages. First, the team undertook a literature review. Second, the team undertook a review of currently available programs. Third, the results of the first two processes informed the formulation of questions for a needs assessment survey. Fourth, the survey was distributed to an interdisciplinary network of health professionals and students. Fifth, the data were collected and analysed. And finally, the results were used to inform the design of a preceptor/preceptee education program. Approval to undertake the needs assessment was received from the Western University Research Ethics Board.

Needs assessment literature review

At the outset of the needs assessment, a literature review was conducted (in 2006) to address the question: *What are the key learning needs that resonate with preceptors and students as they prepare to engage and interact in practicum placements*? The following databases were searched: CINAHL, Medline – OVID, Scopus and PubMed. A variety of keywords were used including: preceptor, preceptorship, clinical educator, fieldwork educator, student, student learning, preceptee, training health professionals, online education and preparation, fieldwork, and practicum & clinical education. The literature verified the need for preceptor education (Billay & Yonge, 2004; Ohrling & Hallberg, 1999, 2001; Wilson, 2002), identified benefits of better prepared preceptors for both the preceptors themselves and their students (Billay & Yonge, 2004; Freiburger, 2002) and suggested content areas for such education. Recommended content areas included: identifying student learning needs, dealing with differences in teaching and learning styles, fostering clinical judgement/reasoning and reflection, communication/feedback, interprofessional collaboration and conflict management, but the most commonly recommended was student evaluation (Billay & Yonge, 2004; Freiburger, 2002; Kaviani & Stillwell, 2000; Mulholland, Derdall, & Roy, 2006; Myrick, 2002; Ohrling & Hallberg, 1999, 2001; Usher et al., 1999). The literature also emphasised the time demands on preceptors and warned that the efforts of preceptors must be recognised and valued in an effort to prevent burn out (Kaviani & Stillwell, 2000; Usher et al., 1999; Wilson, 2002). Since this initial review, a continued search of the literature demonstrates consistent findings with the original review, in terms of content areas, and continues to call for the development of educational resources to prepare preceptors and preceptees for educational placements (Luhanga et al., 2010; Taylor, Hasseberg, Anderson, & Knehans, 2010).

ISSN 1442-1100

Environmental scan: Preceptor education program review

At the outset of the project, an environmental scan (2006) of available online preceptor education programs was conducted. Fifteen English language preceptor education programs were identified within Canada, the United States and Australia (see Table 1); 12 were online programs, and 3 were resource manuals.

The programs reviewed were designed for a variety of health professions, including nursing, physical therapy, occupational therapy, audiology, speech sciences, pharmacy and medicine. Programs were directed towards the preceptors in a single profession, despite overlap in content areas. Most programs had restricted access or fees. Content emphasised across the programs included student evaluation, giving feedback, clinical teaching strategies, role expectations and dealing with differences in teaching and learning styles. A list of topics that are appropriate for all health disciplines yet not

Table 1
Environmental Scan: Preceptor Educational Resources (2006)

Online Preceptor Education Resources, 2006
*1. *Preceptor Resource Kit*. The RNAO's Centre for Professional Nursing, Registered Nurses Association of Ontario. http://old.rnao.ca/prk/
2. *Centralized Preceptor Education Project*. University of Calgary, Nursing
3. *Being a Preceptor in a Health Care Facility*. Indiana University, Nursing
4. *Australian Pharmacy Preceptor Program*. Australian Preceptor Training Consortium
*5. *Becoming an Effective Preceptor*. University of Texas, Pharmacy http://www.utexas.edu/pharmacy/general/experiential/practitioner/becoming.pdf (preceptor manual)
6. *Preceptor Development Program*. University of North Carolina, School of Pharmacy
7. *A Faculty Development Program for Preceptors of Health Professions Students*. University of North Carolina, School of Medicine
*8. *The Effective Preceptor*. North Carolina, Family Medicine. http://www.oucom.ohiou.edu/fd/monographs/effective.htm (preceptor document)
*9. *Preceptor Development Program*. University of Virginia, Medicine. http://www.med-ed.virginia.edu/courses/fm/precept/index.htm
10. *Preceptor Education Project*. US Society of Teachers of Family Medicine
*11. *Teaching Skills for Community Based Preceptors*. University of British Columbia, Faculty of Medicine. http://www.r-scope.ca/websitepublisher/downloads/Teaching%20Skills%20for%20Community%20Based%20Preceptors.pdf
12. *Clinical Education Strategies: Putting Ideas into Practice*. University of British Columbia, School of Audiology & Speech Sciences
Preceptor Resource Manuals (not available online)
13. *Partners Along the Path of Learning: Preceptor/Mentor Workshop Materials*. Conestoga College Nursing Program
14. *Self-Paced Instruction for Clinical Education and Supervision: An Instructional Guide*. (Manual). American Occupational Therapy Association (1991).
15. *Credentialed Clinical Instructor Program*. (Manual). American Physical Therapy Association (Revised Edition, 2005)

* Active web links (2014)

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adequately covered in the existing programs was identified by the research team. The identified areas for potential module development that would expand currently available resources are presented in Table 2.

Although there were numerous programs identified, the review revealed that most programs had restricted access as opposed to open access; most of the programs were designed in a discipline specific manner (ie. nursing, medicine, pharmacy, speech-language pathology) as opposed to offering interprofessional education; and all programs were addressed to preceptors as opposed to also considering the student preceptees.

Needs assessment survey design

The review of the literature, the environmental scan of available preceptor education programs as well as the professional judgement of the research team (who collectively possessed significant expertise in preceptor/preceptee education) informed the design of the needs assessment survey. The survey was designed in four sections. The first section

Table 2
Potential Educational Topics Identified Through Environmental Scan

Popular Topics
1. Site orientation suggestions and checklists
2. Preceptor and student roles and expectations
3. Principles of adult learning
4. Inter-professional practice
5. Motivation and inspiration
6. Giving and receiving feedback
7. Fostering reflective practice
8. Developing learning objectives
9. Critical thinking
10. Clinical reasoning
11. Dealing with conflict
12. Dealing with problems
13. The teachable moment
14. Organising and planning tips and strategies
15. Integrating the student into the work environment
16. Regulatory college clinical education guidelines
17. Diversity and cultural sensitivity—eg., age, gender, ethnicity
18. Professional boundaries
19. Clinical education models
Topics (identified only once in scan)
1. Organisation and planning strategies
2. Handling problems
3. The one-minute preceptor
4. Building student self-confidence
5. Peer coaching ideas
6. Effective communication
7. Placement time line
8. Challenges of rural preceptoring
9. Assessing learning needs

ISSN 1442-1100

collected demographic information, such as discipline, preceptor or preceptee status, urban versus rural geographic setting, practice setting, years in practice or years in program of study and number of clinical placement experiences. In the second section, respondents were asked to identify online or published materials used to help prepare for a clinical placement. As well, recommendations were sought for references that would be useful to the program development team. The third section of the survey asked respondents to rank their top 5 to 7 educational topics from a list of 20 possible topics. In generating the list of 20 topics on the needs assessment, the research team met to consider the content areas identified as important in the literature review and topics identified in the environmental scan. In addition, topics were identified based on the experience of the team as university fieldwork coordinators (collectively over 100 years). These included topics the team thought helpful for new or more novice clinical educators, those that would expand the knowledge base of more seasoned clinical educators, those that would assist students with both procedural and relationship components of their placement, those that matched the expertise found within the research team, those frequently requested by preceptors and preceptees and those that would be relevant regardless of user discipline. This portion of the survey also invited "other" suggestions for topics by respondents. Finally, the survey sought feedback about willingness to use an online program and an indication of the length of time that it should take to complete any one module.

Survey implementation

A purposive sampling approach was used to recruit preceptor and preceptee participants. A letter of invitation to the study was distributed by email to preceptors across Ontario. Preceptors who had offered placements to students in one of the professions in which the research team members taught were invited. Faculty members responsible for practice education at university programs in Ontario, in occupational therapy (OT), physical therapy (PT) and nursing were also invited to participate. Further, faculty members from speech language pathology and audiology programs across Canada were invited to participate.

Students who were actively engaged in an academic term during the period of recruitment were also invited to complete the survey. Faculty members from the research team visited student groups to inform them about the needs assessment phase of the research project and provided a letter of invitation to consider participation in the study by participation in the survey. The online survey was distributed using the Survey Monkey™ software application.

Participant demographics

A total of 596 participants responded to the survey. Sixty-five percent of the respondents were preceptors, 20% were preceptees (students), 10% had academic affiliations (full or part time faculty members) and 5% described themselves as "other" (Table 3). The response proportions were similar for occupational therapy, physical therapy, nursing, and speech and language pathology disciplines, ranging from 19% to 26% of the total respondents, with audiology making up 3.4%. The "other" categories comprised 2.5% of participants and included representation from pharmacology, OT/PT assistants, infection control personnel, interprofessional education specialist, nutrition and psychology.

ISSN 1442-1100

Table 3
Participants

	Number Responding	Percentage**
Discipline (All participants)		
Audiology	20	3.4
Nursing	113	19.0
OT	143	24.0
PT	148	24.8
SLP	157	26.3
Pharmacy	8	1.3
Other	7	1.2
Current status (All participants)		
Student	123	20.3
New clinician (<3yrs)	48	7.9
Experienced clinician	343	56.7
Academic faculty	32	5.3
Faculty/clinician	30	5.0
Other	29	4.8
Practice setting (Preceptors only) *		
Rural	92	15.4
Urban	217	36.4
Team environment	224	37.6
Work in isolation	26	4.4
Public hospital	223	37.4
Public community agency	11	1.9
Private practice	46	7.7
School	60	10.7
Academic	34	5.7
Other	34	5.7
Area of practice (Preceptors only) *		
Home care	64	10.7
Adult	211	35.4
Mental health	55	9.2
Paediatrics	147	24.7
Geriatrics	107	18.0
Health promotion	42	7.1
Education	94	15.8
Other	58	9.7
Number of placements (All participants)		
None yet	72	12.9
1–2	105	18.9
3–5	117	21.0
6–10	93	16.7
More than 10	169	30.4
Not reported	40	

* Participants could respond in more than one category
** Percent of those responding to the question

ISSN 1442-1100

Preceptor respondents represented a range of experience. Of those who responded to the question, 68% had supervised at least three students, including 30% who had supervised more than 10 students throughout their professional career. Preceptor respondents also represented a wide variety of practice areas, including adults (35%), paediatrics (24%), geriatrics (18%), home care (10%) and mental health (12%). Those with academic affiliations (full or part-time faculty members) made up 11% of respondents, reflecting their investment in the project (Table 3).

Results

Ranking of educational topics

Table 4 lists potential educational topics as ranked by preceptor and student (preceptee) participants. The top 10 preferences regarding educational content areas identified by both preceptors and students in descending order of importance were: giving and receiving feedback, clinical reasoning, roles and expectations, critical thinking, developing learning objectives, dealing with problems, fostering reflective practice, the teachable moment, regulatory college clinical education guidelines and dealing with conflict (Table 4). The next 10 content areas of interest in order of highest interest were: interprofessional practice, motivation and inspiration, principles of adult learning, site

Table 4
Ranking of Topics

Topics	Overall	Preceptee	Preceptor
Giving and Receiving Feedback	**1**	**2**	**1**
Clinical Reasoning	**2**	**1**	**3**
Roles and Expectations	**3**	**4**	**2**
Critical Thinking	**4**	**3**	**5**
Developing (Really Useful) Learning Objectives	**5**	**6**	**4**
Dealing with Problems	**6**	**9**	**7**
Fostering Reflective Practice	**7**	**19**	**5**
The Teachable Moment	8	10	9
Regulatory College Clinical Education Guidelines	9	13	8
Dealing with Conflict	**10**	**8**	**11**
Inter-professional Practice	11	4	13
Motivation and Inspiration	12	11	12
Principles of Adult Learning	13	17	10
Site Orientation	**14**	**7**	**14**
Organising and Planning Tips and Strategies	15	13	15
Clinical Education Models	16	16	16
Integrating the Student into the Work Environment	17	11	17
The Formal Evaluation	**18**	**20**	**18**
Professional Boundaries	19	15	19
Diversity and Cultural Sensitivity	20	17	20

Note: Topics developed into education modules in bold; identical topic ratings indicate a tie in ranking

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orientation, organising and planning tips and strategies, clinical education models, integrating the student into the work environment, the formal evaluation, professional boundaries and diversity and cultural sensitivity. Beyond the topics suggested in the survey, individual respondents suggested the following topics for additional modules: staying resilient in a high-paced environment, charting review, learning styles, teaching techniques such as active listening, and questioning.

Interestingly, there was no notable difference in the ranking of educational content areas (see Table 4) identified by students and preceptors. In addition, there was little ranking difference between rural and urban clinicians (Table 5) or between disciplines (Table 6).

Table 5
Topics Ranked as "Most Important" by Urban and Rural Preceptors

Topics	Urban	Rural
Giving and Receiving Feedback	**67.7%**	**64.6%**
Clinical Reasoning	**52.8%**	**53.7%**
Roles and Expectations	**56.4%**	**53.7%**
Critical Thinking	44.6%	41.5%
Developing Learning Objectives	**49.7%**	**50.0%**
Dealing with Problems	40.5%	36.6%
Fostering Reflective Practice	**45.1%**	**46.3%**
Regulatory College Clinical Education Guidelines	35.9%	40.2%
Inter-professional Practice	28.7%	35.4%
Dealing with Conflict	28.7%	24.4%

Note: Top five topics in bold

Table 6
Topics Ranked as "Most Important" by Discipline (Preceptors & Preceptees)

Topics	OT	PT	SLP	Nursing
Giving and Receiving Feedback	**64.6%**	**67.9%**	**75.0%**	**60.8%**
Clinical Reasoning	**56.9%**	**57.7%**	**58.1%**	**46.4%**
Roles and Expectations	**58.5%**	**53.3%**	**44.1%**	**56.7%**
Critical Thinking	**42.3%**	**52.6%**	**46.3%**	**43.3%**
Developing Learning Objectives	**64.6%**	**38.0%**	**40.4%**	**39.2%**
Dealing with Problems	39.2%	35.0%	36.0%	40.2%
Fostering Reflective Practice	37.7%	27.7%	47.8%	35.1%
Regulatory College Clinical Education Guidelines	34.6%	34.3%	30.9%	33.0%
Inter-professional Practice	28.7%	24.4%	39.7%	32.0%
Dealing with Conflict	26.9%	38.7%	31.6%	29.9%

Note: Top five topics in bold

ISSN 1442-1100

Use of an online educational program

Over 90% of respondents indicated they would use an online program for preceptor/preceptee education. Within the survey, all respondents were given an opportunity to provide open-ended comments or suggestions. When asked about the usefulness of an online educational resource, a sampling of the respondents' comments included: "I feel that this would be very beneficial for new staff who are thinking of taking on a student"; "The resources need to be current and easy to navigate"; "I would look at it but if it didn't meet my needs as a clinician (with over 20 years of experience), I may not use it".

Module duration

Overall, 65% of respondents preferred the modules to be 30 minutes or less in duration, 21% indicated they would use modules of 45 minutes or less and 13% indicated 60 minutes or less (Table 7).

Table 7
Preferred Duration of Modules

Module Duration (in minutes)	Overall Percentage
30 minutes	63.8%
45 minutes	21.4%
60 minutes	13.0%
More than 60 minutes	1.8%

Discussion/implications

The results of this study provided practical information that was used in the design of a preceptor education program (Bossers et al., 2007) and may be useful to other groups interested in the design of interprofessional preceptor/preceptee education. The findings point to particular topics of interest and reveal significant agreement between disciplines in terms of the educational content identified as relevant. The similarity of topics identified as relevant provides support for the development of interprofessional types of educational programing that address the learning needs of preceptors and preceptees from a number of disciplines (Myrick et al., 2011). Working collaboratively to develop and implement interprofessional programing is cost effective in a context of preceptors declining resources (Marriott et al., 2005) and in light of the significant workload for faculty members who currently offer such programing within individual disciplines.

It is also interesting to note that the content areas of interest to preceptors and preceptees in this study, such as orientation, feedback, learning goals, conflict resolution, clinical reasoning, reflection and evaluation, are consistent with those identified as important in the current literature (Kassam et al., 2011; Luhanga et al., 2010; Taylor et al., 2010). Of note, content areas identified as priorities were

ISSN 1442-1100

relatively consistent regardless of the respondent's discipline, urban versus rural location and whether the respondent was a student or preceptor. This suggests that a single educational design has the potential to meet the learning needs of multiple stakeholders. Surprisingly, culture and diversity, a topic of increasing concern in health professional education, was rated last overall. Given that the experience of the team members suggests that issues related to cultural insensitivity arise fairly regularly in student placements, some questions arise concerning whether such topics should be included in preceptor education, despite their low rating in this study.

The findings of this needs assessment offer practical contributions with respect to what participants view as realistic time frames for preceptor/preceptee learning activities. The finding regarding time frames is of particular relevance to the design of education for preceptors, given the busy contexts in which health professionals work. Further, being a preceptor: may be stressful, is a role not included in most job descriptions, could be seen as having limited rewards or incentives and is known to increase workload (Yonge et al., 2008). Consistent with the findings of Kassam et al. (2011), the vast majority of clinical educators and students indicated that they would use an online educational tool if modules did not exceed 30 minutes in length.

Further, given limited funds available for continuing education and contexts where geographical and logistical challenges limit access to university-based educational opportunities, the need to explore alternative educational formats is a pressing concern for many programs. A web-based approach to meet the needs of preceptors and students offers significant possibilities for responsive educational design.

Marriott et al. (2005) suggested that better-prepared preceptors offer a better-quality placement, enjoy the process of providing practice-based education to students and enable students to have a more successful experience. Newman, Sandridge and Lesner (2011a, 2011b) suggested that both new and experienced preceptors feel apprehensive about the preceptor role. Further, Luhanga et al. (2010) believed the success of a preceptorship is influenced by the quality of the educational preparation and ongoing support. Nonetheless, ensuring that preceptors have access to quality preparatory educational programs is an educational challenge. The findings of this needs assessment support the development of an online resource as a potential avenue for negotiating this challenge.

The program review of available resources indicated gaps in terms of: the accessibility of current resources, resources that address preceptee/student's needs (in addition to those of preceptors) and the availability of interprofessional educational resources on this topic.

The findings of the needs assessment suggest that, if a new program is to add value to programs and resources currently available, it would need to be responsive to educational content relevant to stakeholders and applicable across disciplines, practice settings, audiences and institutional contexts. It also needs to be easily accessible (both financially and practically) and respectful of the logistical and geographical workplace demands that users face.

ISSN 1442-1100

Design of an open access online preceptor education program

In terms of practical applications, the results of the survey guided the design of an online preceptor education program (Bossers et al., 2007) by the research/educational design team. Based on responses to the survey, as well as practical needs identified by the team, decisions were made concerning which educational content to include in the program. The 10 topics outlined in Table 4 were seriously examined and considered as educational topics. From these, seven module topics (Table 8) were selected for inclusion in the design of an online, open-access, interprofessional preceptor/preceptee education program (Bossers et al., 2007).

Table 8
Module Topics Selected for Development in the Preceptor Education Program (PEP) for Health Professional Preceptors and Students

Selected Educational Module Topics
1. Site Orientation (Welcoming the student, roles and expectations)
2. Developing (Really Useful) Learning Objectives
3. Giving and Receiving Informal Feedback
4. Understanding and Fostering Clinical Reasoning (Critical thinking)
5. Fostering Reflective Practice
6. Dealing with Conflict (Dealing with problems)
7. The Formal Evaluation Process

A number of topics were similar; therefore, some topics were combined to cover more than one content area. For example, the topic of "Roles and Expectations" was included within the "Site Orientation Module". The topic of "Dealing with Problems" was included within the "Dealing with Conflict Module". In addition, practical considerations were taken into account, such as the needs of the university and the available expertise on the team. For instance, although the topic of "Formal Evaluation" was ranked 18 out of 20 overall, the development team and the literature considered this to be an important content area to include, given the requirements of university programs and the team's first-hand experience in the field. Scholars with significant expertise in particular topics were assigned these topics in the design process.

It is also interesting to note that since the original environmental scan in 2006, only 5 of the original 12 web-based programs are currently available (see Table 1). Many of the original programs were not available free of charge. However, since 2006, there have been a large number of newly developed online educational resources, primarily for health preceptors, and many are available free of charge, making them easily accessible (see Table 9). Presumably, this reflects that the culture of preceptors as well as preceptor education is shifting in terms of more timely, easily-accessible, technologically-advanced approaches to preceptor education made possible with improved web design and computer technology. The capacity of online programs to remain current and

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Table 9
Web-based Preceptor Education Programs, 2014[1]

	Web-based Preceptor Education Programs[2, 3]	Program Focus & Module Topics[4]
1.	*Preceptor Development Initiative (E-Tips)* and BC Preceptors Development and Support. British Columbia. BC Academic Health Council (BCAHC). http://www.practiceeducation.ca/modules.html http://www.preceptordevelopment.org/index.php?option=com_content&view=article&id=27&Itemid=30;	E-Tips, General (7 modules): C, F, E, S and Setting the Stage, Role of Learning, Enhance Teaching Skills, Resolving Conflict; Also available: Preceptor Manual & Learners Manual and three online workshops.
2.	Center for Teaching Excellence, University of Medicine & Dentistry of New Jersey Clinical Education Resources. http://meg.rbhs.rutgers.edu/cte/clinical_education/clinicaleducation.html	Focus on Medicine (12 modules): B, F, E, General Concepts Tips, Teaching/learning Styles, Community Preceptorship, Avoiding Pitfalls & Addressing Problem Situations, Evidence-based Clinical Teaching, IPP.
3.	*E-Learning Modules for Clinical Teachers*. National Health Service, England (NHS), NHS Faculty Development Unit, London Deanery, UK. http://www.faculty.londondeanery.ac.uk/e-learning	General (19 modules): S, and Interprofessional Teams, Involving the Patient in Clinical Learning, Diversity, Equal Opportunity Human Rights, Assessing Educational Needs, Managing the Trainee in Difficulty and additional topics.
4.	*Expert Preceptor Interactive Curriculum (EPIC)*, EPIC, Office of Educational Development, University of North Carolina School of Medicine. http://www.med.unc.edu/epic/	Focus on Medicine (10 modules): O, E & F, Teaching in Community Practice, Teamwork in Health Care, Information Technology, Evidence Based Care, Clinician–Patient Relationship, Health Promotion/Disease Prevention and additional topics.
5.	*Simple Precepting Tools*, Office of Community-based Education and Research (OCER), Dartmouth Medical School, Dartmouth, NH http://geiselmed.dartmouth.edu/ocer/resources/tools/simple/	General (7 modules, one minute each): O, 1, F, Introducing Learner to Patients, Two-minute Teaching Technique, Five-step Method for Teaching Clinical Skills, Priming for Patient Encounter.
6.	*Preceptor Education Program (PEP) For Health Professionals and Students*. Faculty of Health Sciences, Western University, Fanshawe College and Middlesex & London Public Health Unit, London, Ontario. http://www.preceptor.ca/	General (9 modules, for both students and preceptors): O, G, F, C, E and Reflection (basic & advanced modules), Dealing with Conflict, Peer Coaching.
7.	*KUSM-W Volunteer/Faculty Preceptor*. University of Kansas, School of Medicine, Wichita, USA. http://wichita.kumc.edu/preceptor/introduction.html http://wichita.kumc.edu/strategies/index.html	Focus on Medicine (17 modules): O, 1, F, B, E, S and Using Active Observation, Teaching Clinical Skills, Giving Short Talks, Evidence-based Medicine, Unwritten Curriculum and additional topics.
8.	*Practical Prof website*. Alberta Rural Physician Action Plan supporting the Alberta Rural Family Medicine Network. http:// www.practicaldoc.ca/teaching/practical-prof/preparing-to-teach	Focus on Medicine (6 modules): O, F, S, E and Preparing Your Office, Teaching Nuts & Bolts, Videos & Downloads.
9.	*E-Learning for Preceptors*. Alberta Health Services (2014). http://www.albertahealthservices.ca/careers/page529.asp	General (12 modules): F and Why Be a Preceptor?, Effective Preceptors, Preceptor Roles and Responsibilities, Sources of Friction, Strategies for Success, Student Failure and more; 5 modules IPP
10.	*Preceptor eLearning Course*. Preceptor Education in the Faculty of Health Professions at Dalhousie University, Halifax, NS. http://preceptor.learningandteaching.dal.ca/	General (4 modules): E & F and Role of Preceptor, Teaching Methods & Learning Styles, Supporting Students' Learning Needs and additional resources.

ISSN 1442-1100

11.	*Preceptor Resources for Public Health Units*. Public Health Ontario, Ontario Agency for Health Protection and Promotion. http://www.publichealthontario.ca/en/ServicesAndTools/ResearchAndEducationSupport/Pages/Preceptor-resources-for-public-health-units.aspx	General (6 modules): F and Why Be Preceptor? Effective Preceptors, Building Student Confidence, Critical Thinking, Managing Student Progress.
12.	*Preceptor Development Program*. University of Virginia, Medicine. http://www.med-ed.virginia.edu/courses/fm/precept/index.htm	Focus on Medicine (8 modules): F, 1, E, Teaching & Learning Styles, Interacting with Student, Teaching Clinical Competencies.
13.	*Resources and Support for Community Preceptor Excellence*. R-SCOPE. The Academic Support Process (ASP) website, Department of Family Medicine, University of Ottawa. http://www.r-scope.ca/websitepublisher/general.html	General (8 modules): Summarises multiple preceptor learning programs listed within this table under the following module headings: O, F & E, S and How We Learn, Preparing to Teach, Teaching with Patients, Teaching Techniques.
14.	Cristina Cicco (MHSc), Ryerson University; Dietitians of Canada website (Apr 2014). http://www.dietitians.ca/Downloadable-Content/Public/Handouts/ Preceptor_Paradigm_resources_handout.aspx	Focus on Dietitians: Summary of 10 online preceptor learning programs.

[1] Websites active as of September 2014

[2] Key for module topics: O = Orientation, G = Setting Goals/Objectives, F = Feedback, 1 = One Minute Preceptor, B = Teaching at the Bedside, C = Clinical Reasoning, S = Supporting the Struggling Student, E = Evaluation, IPP = Interprofessional Placements.

[3] A number of web-based preceptor programs presented in this table were obtained from the Academic Support Process (ASP) website, Department of Family Medicine, University of Ottawa (2010–2012), http://www.r-scope.ca/websitepublisher/general.html

[4] This is not meant to be an exhaustive list of all available online preceptor programs but an overview of some significant web-based health preceptor education programs that are presently available.

compatible with new technology, such as mobile devices and tablets, is a topic worthy of consideration. While frequently touted as a resource saving measure, one issue of importance in online interdisciplinary design is a recognition that the "shelf life" of online educational programs may be limited. Recognition of the need for ongoing support in terms of technological infrastructure and updating of the interfaces, content and design are topics worthy of consideration in the design and maintenance of such programs if they are to remain sustainable over time.

Strengths and limitations

In terms of strengths of the study, the information gathered was of practical utility to the research team in designing interprofessional preceptor/preceptee education. The online preceptor/preceptee education program was pilot tested and revised based on recommendations from stakeholders. To date, over 10,000 participants have used the resource with positive reviews. In addition, the study may have unexplored relevance to others wishing to develop a similar resource. As researchers and educators, the team would have appreciated a study such as this one to inform the design process. Because this information was not available at the time, the research team was required to conduct this needs assessment.

ISSN 1442-1100

With respect to limitations, the results of the needs assessment were weighted towards preceptor input, given that 74% of respondents were preceptors. Similarly, results were more representative of respondents in urban settings and those working on teams and in acute care settings. The findings may be practically transferable to other health professional education contexts; however, they are not generalisable. An overall constraint of the project was a limited 6-month timeframe required by the granting agency, the Ontario Ministry of Health and Long-Term Care.

Conclusion

In conclusion, the professional education of healthcare practitioners is heavily reliant on practical education in the field and on the goodwill of preceptors who offer educational opportunities to the next generation of practitioners. The experience for the preceptor and the preceptee can be greatly enhanced through the provision of preparatory education. Providing preparatory education to preceptors and student preceptees is an important role of university faculty members who coordinate placement education. This study undertook a needs assessment that has the potential to inform the design of online interprofessional preceptor–preceptee education programs. The findings highlight: educational topics of interest to preceptors and preceptees who participated in this study, their preferred time frames and their receptivity to an online educational format. The findings have practical implications for those interested in the design of interprofessional preceptor/preceptee education programing.

Declaration of Interest

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References

Benner, P., Sutphen, M., Leonard, V., & Day, L. (2010). *Educating nurses: A call for radical transformation*. San Francisco: Jossey-Bass.

Billay, D. B., & Yonge, O. (2004). Contributing to the theory of preceptorship. *Nurse Education Today*, *24*, 566–574.

Blum, C. A. (2009). Development of a clinical preceptor model. *Nurse Educator*, *34*(1), 29–33.

Bossers, A., Bezzina, M. B., Hobson, S., Kinsella, E. A., MacPhail, A., Schurr, S., . . . Jenkins, K. (2007). *Preceptor education program for health professionals and students.* Retrieved from www.preceptor.ca

Freiburger, O. A. (2002). Preceptor programs: Increasing student self-confidence and competency. *Nurse Educator*, *27*(2), 58–60.

Godden, A., Bossers, A., Corcoran, D., Ling, D., & Morgan, S. (1992). A practicum site survey for students of audiology, occupational therapy, physical therapy and speech-language pathology. *The Clinical Supervisor*, *10*(1), 203–214.

ISSN 1442-1100

Kassam, R., MacLeod, E., Collins, J., Tidball, G., Drynan, D., Neufeld, L., & Kwong, M. (2011). 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*, *9*(2), 1–9. Retrieved from http://ijahsp.nova.edu/articles/Vol9Num2/Kassam.htm

Kaviani, N., & Stillwell, Y. (2000). An evaluative study of clinical preceptorship. *Nurse Education Today*, *20*, 218–226.

Kemper, N. J. (2007). Win-win strategies to help relieve preceptor burden. *Nursing Management*, *38*(2), 10.

Luhanga, F. L., Dickieson, P., & Mossey, S. D. (2010). Preceptor preparation: An investment in the future generation of nurses. *International Journal of Nursing Education Scholarship*, *7*(1), 1–18. doi: 10.2202/1548-923X.1940

Marriott, J., Taylor, S., Simpson, M., Bull, R., Galbraith, K., Howarth, H., . . . Rose, M. (2005). Australian national strategy for pharmacy preceptor education and support. *Australian Journal of Rural Health*, *13,* 83–90.

Mulholland, S., Derdall, M., & Roy, B. (2006). The student's perspective on what makes an exceptional practical placement educator. *British Journal of Occupational Therapy*, *69*(12), 567–571.

Myrick, F. (2002). Preceptorship and critical thinking in nursing education. *Journal of Nursing Education*, *41*(4), 154–164.

Myrick, F., Caplan, W., Smitten, J., & Rusk, K. (2011). Preceptor/mentor education: A world of possibilities through e-learning technology. *Nurse Education Today*, 31, 263–267. doi:10.1016/j.nedt.2010.10.026

Myrick, F., & Yonge, O. (2005). *Nursing preceptorship: Connecting practice and education.* Philadelphia: Lippincott Williams & Wilkins.

Newman, C. W., Sandridge, S. A., & Lesner, S. A. (2011a). Becoming a better preceptor. Part 1: The fundamentals. *The Hearing Journal*, *64*(5), 20–27.

Newman, C. W., Sandridge, S. A., & Lesner, S. A. (2011b). Becoming a better preceptor. Part 2: The clinic as classroom. *The Hearing Journal*, 4(7), 10–18,

Ohrling, K., & Hallberg, I. R. (1999). Student nurses' experience of preceptorship. Part 2: The preceptor–preceptee experience. *International Journal of Nursing Studies*, *37,* 25–36.

Ohrling, K., & Hallberg, I. R. (2001). The meaning of preceptorship: Nurses' lived experience of being a preceptor. *Journal of Advanced Nursing*, *33*(4), 530–540.

Phillips, J. M. (2006). Preparing preceptors through online education. *Journal for Nurses in Staff Development*, *22*(3), 150–156.

Riley-Doucet, C. (2008). A self-directed learning tool for nurses who precept student nurses. *Journal for Nurses in Staff Development*, *24*(2), E7–E14.

Robson, C. (1993). *Real world research*. Oxford, UK: Blackwell.

Rogan, E. (2009). Preparation of nurses who precept baccalaureate nursing students: A descriptive study. *The Journal of Continuing Education in Nursing*, *40*(12), 565–570. doi: 10.3928/00220124-20091119-06

ISSN 1442-1100

Smedley, A. M. (2008). Becoming and being a preceptor: A phenomenological study. *The Journal of Continuing Education in Nursing*, *39*(4), 185–191.

Speers, A., Strzyzewski, N., & Ziolkowski, L. (2004). Preceptor preparation: An investment in the future. *Journal for Nurses in Staff Development*, *20*(3), 127–133.

Taylor, E. L., Hasseberg, C. M., Anderson, M. A., & Knehans, A. (2010). Dietetic preceptor educational needs from the preceptor, student, and faculty perspectives. *Journal of Allied Health*, *39*(4), 287–292.

Usher, K., Nolan, C., Reser, P., Owens, J., & Tollefson, J. (1999). An exploration of the preceptor role: Preceptors perceptions of rewards, supports and commitment to the preceptor role. *Journal of Advanced Nursing*, *29*(2), 506–514.

Wilson, M. A. (2002). Dietetic preceptors perceived their role to include a variety of elements. *Journal of the American Dietetic Association*, *102*(7), 968–974.

Yonge, O., Hagler, H., Cox, C., & Drefs, S. (2008). Time to truly acknowledge what nursing preceptors do for students. *Journal for Nurses in Staff Development*, *24*(3), 113–116.

Yonge, O., & Myrick, F. (2004). Preceptorship and the preparatory process for undergraduate nursing students and their preceptors. *Journal for Nurses in Staff Development*, *20*(6), 294–297.

ISSN 1442-1100