

Citation:

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Executive Summary

Introduction: The primary focus of this instalment was to identify the essential components of a national preceptor development program and develop a prototype based on those principles. Other questions that were considered in this report are below:

- (1) What teaching modalities have been utilized to provide preceptor development?
- (2) What teaching modalities have proven the most successful? Does it depend on whether knowledge, skills, abilities, or attitudes are being taught?
- (3) Based on the answers to #1 and #2, coupled with the evidence and theory provided in instalment #2, a prototype for a preceptor development program would be conceptualized.
- (4) Based on the prototype developed in #3, what challenges/barriers could exist that may impact development/implementation of the comprehensive program?

Methods/Results: A comprehensive literature review was conducted to address all of priority 3. The methodology that was used to identify articles for consideration is consistent for each instalment of this priority and has been described in Part 2 of the series. For instalment three, emphasis was placed on those articles that focused on “medium” (the environmental conduit through which information/interface occurs) and “modality” (the particular style of information exchange such as individual learning, small group workshops, etc.) as the primary categories of interest.

Discussion: Preceptor training programs are offered through varied media, a diversity of modes, and vary in length and scope. Unfortunately, very little data has been published to support their use and few head to head studies exist to conclude one modality is more or less effective than another. It appears the circumstances of when, how, and for whom it is used will determine its impact. Live programs, workshops, and discussions are effective for developing personal relationships, socialization, and confidence. Use of online programs is increasing, although it has proven more difficult to demonstrate deeper learning and much of their focus has been on knowledge development. A prototype was developed based on some foundational principles. It had to be flexible, relevant to preceptor responsibilities, allow for learning both individually and with others, be highly organized, concise, practical, and easy to access. In addition it would have to offer a diversity of modalities to address multiple adult learning theories and learning styles. The continuing professional development (CPD) process should serve as an integral part of the program.

Conclusion: A prototype of a national preceptor development program was constructed. This prototype will serve as a foundation for future discussions.

Priority 3: Best practice in preceptor development to establish/augment best qualities/abilities in preceptors

INTRODUCTION:

This is the third installment of four addressing a single priority: Priority 3: Best practice in preceptor development to establish/augment best qualities/abilities in preceptors within the Canadian Experiential Education (CanExEd) Project for Pharmacy.

As established in the first installment of this priority, there is a variety of preceptor development opportunities that currently exist. Programs are available at the individual institution, consortium, or national level. Programs are offered through varied media in a diversity of modes and vary in length and scope. Some programs are FREE, others require a nominal fee. In spite of these education and development opportunities, there still is a great need to increase both the content breadth and depth and quality of programming made available to preceptors. It is critical that pharmacy programs are more “intentional” and “strategic” about their preceptor development programs (PDPs), rather than reverting to the check the box and “one size fits all” concepts.

In the second installment of this priority, the requirement for quality PDPs was made clear through specific citations in the Canadian Council for Accreditation of Pharmacy Programs (CCAPP) and the Accreditation Council for Pharmacy Education (ACPE) standards that require this is a critical component of a development program. This installment also reviewed the evidence and educational theory that should be foundational for any comprehensive preceptor development program. Central to this initiative is the clearly defined mission and goals that are focused on the educational philosophies of the Experiential Education Faculty/Faculties. Specific competencies that embody an excellent preceptor were outlined, along the importance of understanding the learner (including their personal experiences, learner characteristics, and current work environment) and how this may affect their approach to preceptor development. In addition, the concept of adult learning theory was introduced and matched to potentially effective teaching and learning modalities. Finally, suggested content of preceptor development programs was provided to assist in providing direction for future development of programming.

The first two installments set the foundation for this third installment, which is focused on describing approaches for operationalization of best practice (evidence and theory) for a preceptor development program on a national scale. A description of **multiple training media and modalities** are described, along with a potential prototype program that could be developed based on principles supported in the literature. Of note, this is only a “potential” or “example” prototype and its purpose is to spark discussion, augmentation, refinement or entirely new ideas. The authors of this report recognize to successfully create a program, additional stakeholder input, analysis of financial, personnel, and technology resources and a pilot must occur prior to wide implementation. Other important decisions that must be made include the “scope” of the development program. Specifically, will this PDP be only for pharmacists in Canada (minimum) OR if it will be expanded to all health care professionals around the world (maximum)? Each of these decisions will impact future direction of the project. In reviewing this third installment keep an open-mind and think of the “perfect-world” scenario where no barriers exist. Once the “ideal” model has been conceptualized, time can be spent investigating elements that are/are not effective or entirely infeasible

FINDINGS/DISCUSSION:

A comprehensive literature review was conducted to address all of priority 3. The methodology that was used to identify articles for consideration is consistent for each instalment of this priority and has been described in Part 2 of the series. For instalment three, emphasis was placed on those articles that focused on “medium” (the environmental conduit through which information/interface occurs) and “modality” (the particular style of information exchange such as individual learning, small group workshops, etc.) as the primary category of interest. Once articles had been identified a thorough review of their content was conducted. The primary focus of this instalment was to identify/develop the following:

- (1) What teaching modalities have been utilized to provide preceptor development?
- (2) What teaching modalities have proven the most successful? Does it depend on whether knowledge, skills, abilities, or attitudes are being taught?
- (3) Based on the answers to #1 and #2, coupled with the evidence and theory provided in instalment #2, a prototype for a preceptor development program would be conceptualized.

- (4) Based on the prototype developed in #3, what challenges/barriers could exist that may impact development/implementation of the comprehensive program?

After a thorough review of the literature, approximately 70 articles focused on the diversity of training mediums and modalities utilized to provide preceptor development programming. These articles described programs within a diversity of professions including pharmacy, nursing, medicine, and allied health sciences. The following findings and subsequent recommendations are based on evidence provided in the literature as well as expert opinion. A detailed list of modalities, coupled with a description of the evidence surrounding its use has been provided immediately below.

MEDIUM / MODALITIES

LIVE Programs/Workshop – This type of program/workshop may be in the format of a didactic lecture, lecture + active learning, or just active learning. These programs typically range in duration from 1 to 8 hours. Several studies have suggested that preceptors prefer this medium over others.¹ Many live programs have adopted a blended learning model where they utilize a combination of lecture, videos, reflection exercises, group work, etc. throughout the program/workshop.²⁻⁷ This has proven to be effective. Literature suggests that 4 hours is an ideal length of time for a live program.⁸ This allows an individual to travel to an off-site location and only requires they miss ½ day of work. Shorter programs (1 hr) are reasonable for “lunch meetings” where it is on-site and convenient for preceptors to attend.⁹ Live programs should not be primarily used to deliver “content knowledge”, rather they **should be used to help develop the skills, abilities, attitudes of participants**. These programs may also be more useful in **impacting the “affective domain” of learning**.¹⁰ Program participants should be encouraged to prepare for each LIVE event (through readings, online modules, self-reflection) to ensure they can maximize their learning experience during the program.³

ONLINE Programs - Online programs can also take several different formats. Some institution’s online programs consist of recorded LIVE programs that are made available to participants who were unable to attend the original event. Often these recorded programs are of poor quality and find difficulty engaging the learner. Online programs may also consist of voice-over PowerPoint presentations. Online modules are also becoming more and more popular. There is wide variety of modules that have been developed for preceptor training, ranging from very basic (click from one page to the next)¹¹⁻¹⁵ to very complex (interactive games, quizzes, videos, animation, etc.).¹⁶⁻²⁰ Unfortunately, there is paucity of literature to determine which format of online modules would be best. Intuitively one would assume that the more complex the module the more engaging it would be for the learner, but this could be offset by the frustration of the length of time it takes to complete a given module. Time to complete modules tend to range from a few minutes to several hours depending upon complexity of module. Regardless of module design, they appear to be an effective medium to teach learners “content knowledge”. Teaching the “affective” domain and helping to develop skills, abilities, and attitudes of participants may not be as easily taught through this medium. However, some studies have demonstrated that self-efficacy can be increased.¹⁶ Socialization is critical to many of the non-content domains and is not easily achieved through online modules, given the social isolation some learners have noted. Discussion boards and chat rooms have been employed to overcome this isolation, but have had mixed results of success. Overall, it appears that learners do not choose to regularly engage in these discussion formats online for preceptor related programs. Advantages to online programs include (but are not limited to) access, convenience, consistency of program content, efficient means of training preceptors regardless of staffing shortages, allows for flexibility in participants working differing shift hours or in different practice areas. It is self-paced and flexible, start and stop when they need to. Tracking data can also be a positive attribute of online programs and it may be accessed for record keeping, making content revisions, and evaluating the effectiveness of programs (quality assurance). Some reported disadvantages include participants not have sufficient computer skills or desire to complete online. There may be a lack of availability of computers on-site and technology problems often occur. Cost is also very high for start-up and need technology support.^{21, 22} Given this, it is critical that a “pilot” of a program (during development) be considered prior to allocating significant time/resources to a particular program. Mature, self-motivated and independent adult learners may receive the greatest benefit learning from online courses.

Written Programs – Written programs used to be commonly used preceptor training modality, but has somewhat been replaced by online mediums. Pharmacist’s Letter (Preceptor Resource Training Network) has a large collection of written programs representing a diversity of content/competency areas. In a recent study, looking at experiential websites in the United States more than 85% of pharmacy schools/colleges had it listed as a reference for their preceptors.²³ Through our comprehensive literature search, very little evidence regarding written programs for preceptor training/development was found. This could be due to our search strategy that focused on literature in the past 10 years, and many of the written programs could have been in place before that time. One could ascertain that written programs are most likely good at teaching “content knowledge” but not skills, attitudes, and abilities.

Podcasts / Vodcasts Programs – Podcasts are streaming audio programs (live/recorded), while vodcasts are streaming video programs (live/recorded). Very little evidence on the utilization or effectiveness of this medium was found in the literature.^{24,25} One nursing group developed several 5-7 minute video scenarios that depicted common preceptor-student interactions.²⁴ Authors reported that individuals felt “supported” through this training medium, but did not measure other potential impacts of program. Preceptor support can be tied to personal satisfaction and teaching effectiveness. Thus, not a lot of evidence, but does serve as a potential option for providing preceptor training.

Simulation Programs – Simulation is being utilized more and more in pharmacy curricula. There is however, limited evidence in its use for preceptor development.²⁶ Creating scenarios of student-preceptor interactions (either real-time or recorded) and allowing preceptors to observe the interaction and provide insight into scenario could prove beneficial. These interactions can involve LIVE actors²⁷ or animated figures (avatars). Simulation can be a popular option in that it provides the opportunity for scenarios to be standardized through training of student and preceptor actors. Participants may also be given the opportunity to become a part of a LIVE scenario and demonstrate how they would handle a given situation when faced with it. Of interest, there is one article that describes the idea of “interactive theatre” (IT).²⁸ IT is essentially a simulated environment in which LIVE, human characters depict challenges that preceptors may encounter when teaching students. At the conclusion of a performance, the audience is invited to engage in a discussion with the characters. This dialogue occurs with the guidance of a facilitator. Simulation could be an effective medium to teach preceptors about skills, abilities, and attitudes and may have limited utility in delivering content knowledge. An advantage to simulation is the standardized approach to training that can be achieved. A disadvantage is the amount of time and resources that are required to set-up a simulated experience. Many colleges, schools, and faculties have simulation centers at their institutions. This should be a target area for further preceptor program development.

CD Rom Programs – There was one article that specifically addressed the role of CD Rom Programs in preceptor development.²⁹ Preceptor programs were simply transferred to the CD Rom and then distributed to preceptors for use. Surprisingly, very few preceptors reported using it. This format may be replaced by online programming that makes training more readily available.

Photolanguage Programs – This was a very interesting training format that was mentioned briefly in one article.³⁰ This type of program is designed around group work and requires participants to view a large selection of images of nature and people. Participants are strategically guided through the photographs and asked reflect on how it may relate to preceptor experiences. It is critical that the right types of images would be selected for this program. No evidence on its effectiveness, but an innovative way of looking at preceptor training. Programs like this should encourage others to be creative and “think out of the box” on how to provide better development opportunities.

Gaming Programs – Through our literature search, there were no specific programs that utilized gaming as the guiding principle of the training. There was some reference within online module development that interactive games/quizzes were embedded to make the training more interactive and engaging, but nothing that directly assessed gaming. Outside of preceptor development we know that gaming is becoming a greater part of our social network and is slowly making its way into the educational process. Recently, AACP embarked on a major project to develop “games” to train students (could potentially be used for preceptors) on working in an interprofessional environment.³¹ Again, no evidence to support its use specifically in preceptor development, but could be another creative strategy to explore.

“One-on-One” Target Programs – This process involves individuals (preceptor experts) meeting with faculty/preceptors to discuss issues they are encountering and providing them real-time feedback on how to improve. Little evidence in the literature, but this process has been described as a part of peer evaluation programs to assess quality of experiential teaching.³²⁻³⁵ In one model, evaluators would require a faculty member to complete a pre-visit survey about their teaching.³⁴ The evaluator would then visit the faculty member on-site and tour the physical space and observe their clinical teaching. They would provide immediate feedback to the individual and discuss development strategies. The evaluator would later follow-up with the faculty member to assess their progress and address any questions they may have. Although this process could prove to be very beneficial, it is resource and time intensive and further studies are needed to truly understand its potential role in preceptor development. Faculty involved in these programs found them very helpful, but the numbers were small. May also considering using Office of Experiential Education staff to visit these sites and provide “one-on-one” training during their scheduled site visits. To be effective, the information would need to be highly organized, concise, practical, and easy to access.^{15,36}

Learning Communities (Discussion board, small targeted groups). Learning communities consist of learners who share common interests and needs that meet semi-regularly to discuss issues. These communities can be conducted online (virtually) or in-person.³⁷ This provides a great opportunity for individuals to socialize and network with others. This type of interaction can be invaluable in learning information about similar experiences that others have encountered. Online learning communities, focused on preceptor training, have not proven to be consistently successful. Preceptors do not regularly take advantage of these opportunities when made available. In-person discussions are highly sought after, but prove very difficult to coordinate given the complexity of individual's schedules. Thus, the role of learning communities in preceptor education is still yet to be determined. It is reasonable to conclude however, that forming support groups, mentorship programs surrounding important preceptor issues would prove beneficial. Targeted training for preceptors to make them aware of these opportunities would need to be a major priority if this medium is to be effective.

Learning Bridge Programs – This was reported by one institution in the literature.³⁸ Purpose of this training exercise was to bridge introductory (early) pharmacy practice experiences with material taught in the classroom. Preceptors were provided with a learning activity (with answer key) and were asked to complete with their student. This exercise proved very beneficial in introducing preceptors to the content that students were learning in class, was effective in reemphasizing knowledge of biomedical and pharmaceutical sciences, and helped teach teamwork to faculty (practice and sciences) who were responsible for developing the learning activities. It is an interesting approach to preceptor development in that it provided a great opportunity for both students and preceptors to be learning simultaneously.

Webinars – Although many institutions utilize webinars for preceptor development, there was little evidence that demonstrated their effectiveness. The advantage to webinars is they can be completed by individuals anywhere they have access to the internet and they can be recorded and viewed later should an individual be unable to attend the live session. It is possible to promote dialogue between participants (through chat logs or question/answer sessions), but time spent on this is often limited and provided only at the end of a program. Webinars have the potential to be a powerful training tool for preceptor training, but more studies are needed to understand their true role.

Social Media (Twitter / Facebook) – Social media has become an integral part of human life. One study assessed its role in preceptor development.³⁹ Interestingly, the study showed that preceptors were not interested in utilizing social media sites to complete preceptor programming exercises. They did feel that advertising different programming options would be beneficial, but they should not be used for professional-related activities (like preceptor training).

Video-based training / Movies – Closely related to simulation activities and podcasts/vodcasts, the development of video based scenarios of preceptors and students could prove beneficial. Of interest, the quality of video production can vary between programs. Enhanced quality comes with greater cost, but may increase engagement of learner. In addition, one program embedded humor into the training videos to further engage the learner and has shown success. This type of modality offers the opportunity to reach a new generation of learners who spend their lives tied to technology.⁴⁰

From the evidence above, it is clear that numerous modalities have been used to provide preceptor training. Unfortunately, very little data has been published to support their use and few head to head studies exist to conclude one modality is more or less effective than another. It appears the circumstances of when, how, and for whom it is used will determine its impact. A “Blended” learning model is probably most effective. It is a learning design that combines at least two delivery modalities and may include multiple instructional strategies within each program.²

PROTOTYPE

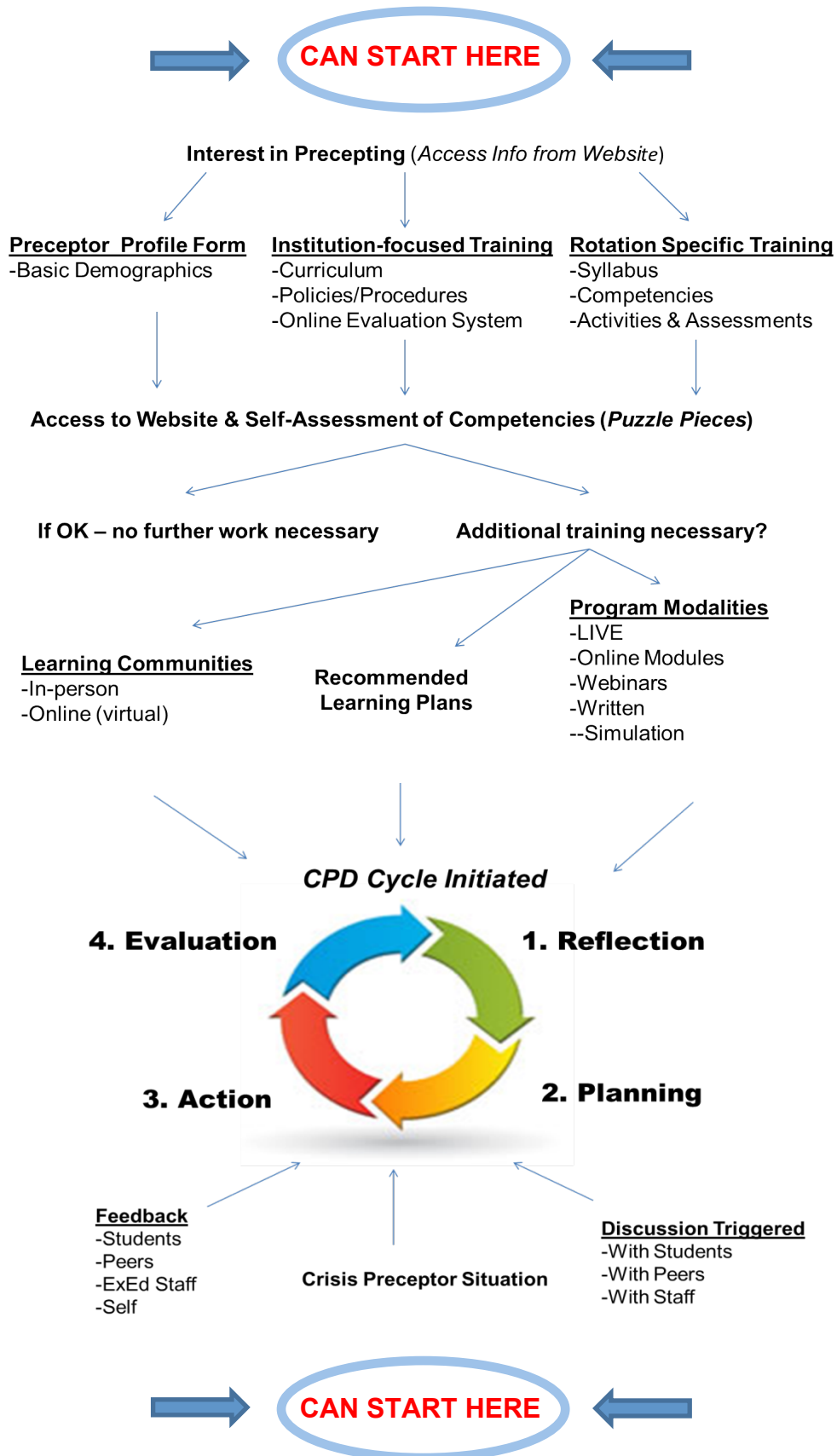
Following a review of the literature on training modalities, a prototype for preceptor development was conceptualized. The prototype took the form of a nationally developed preceptor development website. A graphic below depicts the proposed different sections of the website. The prototype was based on some basic principles. It had to be flexible, relevant to preceptor responsibilities, allow for learning both individually and with others, be highly organized, concise, practical, and easy to access. It had to offer a diversity of modalities to be used to address multiple adult learning theories and learning styles. The continuing professional development (CPD) process should serve as an integral part of the program.^{41,42}






The prototype has been divided into several different sections/icons including; (a) “Globe” – representing all of the colleges, schools, faculties of pharmacy in the world, (b) “Mentor” – the opportunity for preceptors to be paired up with an individual who could help them navigate the preceptor development platform, (c) “Puzzle” – the competencies, knowledge, skills, abilities, and attitudes of exemplary preceptors, (d) “CPD” – the continuing professional development process (reflect, plan, act, evaluate), (e) “Feedback” – feedback from multiple sources (students, peers, staff, self), (f) “Choose your own adventure” – development strategy that allows the learner to be in charge of their “own learning”, (g) “Virtual Communities” – opportunity for preceptors to be paired up with other individuals/groups of like interests, (h) “Preceptor spotlight” – section where preceptors can be highlighted for their accomplishments, (i) “What’s new” – new preceptor information (articles, new programs recently released), and (j) “Questions” – section where individuals have access to frequently asked questions and technical support. A flow-diagram has been provided to describe the basic functionality of the website. Immediately following the flow-diagram there is table containing each of the icons represented in the prototype. Each icon is further described and rationale for its inclusion into the preceptor development strategy has been provided.




NOTE: This is only a “potential” or “example” prototype and its purpose is to spark discussion, augmentation, refinement or entirely new ideas.






FLOW DIAGRAM (*Functionality of Prototype Website*)

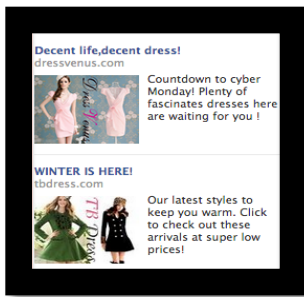


Description of Prototype Elements:

	<p>This “globe” icon is to represent a link to colleges, schools, and faculties of pharmacy around the world. Existing or new preceptors could access the institution they are interested in serving as a preceptor for. When they click on this link they would be taken directly to the institution’s website. On the institution’s website they would be provided access to multiple resources. (1) The first would be a preceptor/site profile that would allow them to submit information necessary to becoming a preceptor (this may be different for every institution). Identification of quality preceptors is the first step of any preceptor development program. It is critical to get the right people into place. To do this, one might consider the American Association of Colleges of Pharmacy (AACP) Academic Pharmacy Practice Initiative (APPI) criteria that were developed in 2007. The criteria are comprehensive and could be tailored to specific programs. Institutions may consider developing a revised form for each required rotation type (both early or introductory experiences and advanced practice experiences). This may not be necessary for “preceptor” identification, but would be more important when establishing site criteria since the type of patients (diabetes, heart failure, etc.) a student will be exposed to could have a significant impact on their performance on a given rotation. (2) Following this, preceptors would be required to complete institution-specific training on the policy and procedures, online learning management system, and professional curriculum (this may be different for every institution). (3) Finally, they would be required to complete training specific to the rotation (research vs. clinical vs. educational etc. Some may have divisions between practice or therapeutic types) they will be precepting. The training would go over the syllabus, assessments, and activities a student would be required to do (this may be different for every institution).</p>
	<p>After completing institution-specific training, the institution would provide the new preceptor with access to the national PDP website. At this time, (as the icon to the left depicts) preceptors would be provided the opportunity to be paired up with a mentor (an individual who has volunteered their time/expertise and reached a minimal level of preceptor development) who could help acclimate them to the website. This could be an optional feature. Preceptors would also be asked to complete several demographic and preference questions that would be used to help direct them in the future to preceptor programming that best fits their needs. This could include “pop-up” reminders of upcoming training events or news stories that might be of interest to them. This would be the first step to making the development strategy – strategically targeted to the learner.</p>
	<p>This will be the focus of the website. It will be the component that all other sections are centered around. This icon represents a “puzzle”. Each puzzle piece represents an important competency, knowledge, skill, ability, or attitude that is essential to being an exceptional preceptor. Installment #2 of this preceptor development series outlines potential “puzzle pieces”. These will need to be further discussed and determined by stakeholders. When a preceptor is provided access to the website for the first time they will be asked to complete a quick quiz or short reflection on their confidence / ability in each of the “puzzle piece” areas. This will serve as a starting point for future preceptor development and will be documented in their profile to refer back to. This will allow for training again to be targeted specifically to the learner. To do this, individuals would “click” on a puzzle piece and be taken to a new page specifically focused on that area. Aside from access to the initial self-assessment / reflection, there will be numerous resources provided in this area. A more detailed discussion on these resources is described immediately below. After completing their self-assessment preceptors will be asked if they feel they need to complete additional training in this area. If they select yes, the puzzle</p>

	<p>piece will turn “red”. If they select no, the puzzle piece will remain “white”. Below the steps that will ensue if they determine they want additional training is found below.</p>
	<p>This puzzle piece represents a specific section targeting a competency, knowledge, skill, ability, or attitude. In this example it is highlighted “red” to alert the preceptor that this is an area that they need to complete training in. Note: Individuals will be able to click directly on the puzzle to go to any individual section (regardless of whether “white” or “red”). When in a specific section, the following types of material would be available, (a) a learning plan (this would be a recommended approach to development for this area) – it would not be required for preceptors to access/follow but strongly encouraged, (b) training programs in a diversity of modalities (online, written, video, podcasts, etc.) and duration (5 minutes, 30 minutes, 1 hour, etc.) – some of these would be accessible in “real time”, while others would have alerts to LIVE programs/workshops or webinars that were upcoming in this area that the preceptor could register for. The development of these modalities would occur on the local, state/province, or national level. Existing programs from around the world would be linked to the site and a needs analysis would be performed to determine need for future programming modalities. Depending on origin of resources, some may be FREE or have a small FEE accompanying them. This will be difficult to coordinate and manage but is critical to the success of a comprehensive preceptor development program. Also, on this page there would be links to the “continuing professional development (CPD)” section of the website (see immediately below) and the “feedback” area which is also described in detail below. An example of a proposed “puzzle piece” – “Dealing With Difficult Students” can be found immediately following this table.</p>
	<p>This will be the CPD section of the website. This section of the site will be triggered either by the individual preceptor or institution they precept for. For each of the “puzzle piece” areas preceptors will be asked to provide an initial assessment of their abilities and periodically thereafter (at a frequency that is to be determined later – could be semi-annually, annually, etc.). They would be asked to complete the process more frequently if one of their puzzle pieces turns “red”. Puzzle pieces will be turned red through an automated process that will be triggered by feedback received from a variety of sources. Feedback process is further described below. When a preceptor begins CPD process they will follow the traditional 4-step process of (a) reflection, (b) planning, (c) action, and (d) evaluation. During the reflection phase, preceptors will be asked to consider their feedback and what development needs they have. Following this, they will review the resources (modalities) and select those programs that best fit their needs. Preceptors will then complete the programs (either online, written, or attend upcoming program or workshop). After the programs have been completed, preceptors will evaluate whether they have met their needs and determine if through these exercises their puzzle piece can turn from “red” back to “white”. Preceptors will document at all steps of the CPD process. See section later in report for more details. This process is intended to be only “formative”, not “summative”. In other words, preceptor completion of this programming will not be “high stakes” with penalties tied to their performance. Colleges, schools, faculties, may use preceptor’s engagement in the process as a marker of their effectiveness as a preceptor.</p>
	<p>This icon will represent “feedback”. Embedded within this section of the website, preceptors will have access to feedback from multiple parties including (but not limited to); (a) student evaluations, (b) site evaluations performed by Office of Experiential Programs staff, (c) peer evaluations performed by preceptors or faculty, and (d) self-assessments. Ideally all of the evaluations would automatically populate on the national website, but logistics may not allow this to happen. In this case, individuals would be directed back to their college, school, or faculties’ website to access the information. This feedback section will be critical for preceptors to determine whether there are puzzle piece areas that need their attention.</p>


	<p>This icon will provide preceptors immediate access to all training modalities for each of the puzzle piece sections. It will allow them to quickly navigate through all of the sections to see what is available. Ideally, preceptors would have the opportunity to view/filter the programs by either (a) competency area or (b) program modality. This icon has been titled “choose your own adventure” as it will be the preceptor identifying their personal training needs rather than being required to complete training that someone else has mandated. This should help to engage preceptors in the learning process and take responsibility for their own learning.</p>
	<p>This icon will represent an “online (virtual) community”. Preceptors will be provided the opportunity to join other preceptors in their preceptor development adventure. The community will provide opportunities for posting to discussion boards, live chats, or even allowing for scheduling of “in-person” visits when available. Institutions would be encouraged to set-up groups that meet in person on a frequent basis. These should not be required, but would allow for important networking and socialization. Some of the best learning occurs through discussion with others.</p>
	<p>This will be the “question” section of the website. Access to frequently asked questions will be provided, along with email and phone contact information to individuals who could help with navigation or technology problems with the website. This will be a critical component to any website design. If the website is not user-friendly, free of regular technology issues, or lacks support preceptors are not likely to utilize the resource.</p>
	<p>This icon represents “preceptor” spotlight. In this section of the website, preceptors who have had significant accomplishments documented in their online CPD portfolio (preceptor of the year, advisory board member, etc.) or have turned a puzzle piece from “red” to “white” will be highlighted. Preceptors could simply click a button that gave permission for the information to be shared with the online community. This along with the “what’s new” section described below could be used to provide recognition to preceptors. This will also help to keep them engaged in the learning process.</p>
	<p>This icon represents the “what’s new” section of the website. Newly released programs, changes to the website, recently published literature/presentations will be highlighted. Preceptors will be encouraged to submit items to this section of the website to be featured. This would provide an opportunity for them to be recognized for some of the great work they are doing.</p>



This icon represents “advertisements”, “programming alerts”, “pharmacy organizations”, etc. that the preceptor may be interested in based upon their initial demographic survey and then through navigation on the internet. It would function similarly to Facebook and other social media sites that use your web navigation to highlight things that may be of interest to you.

EXAMPLE – Competency Puzzle Piece – “Dealing with Challenging Students”

Note: This would be what a preceptor would see if they were to click on a puzzle piece off of the website. Each puzzle piece would have a similar design, however the information would be different and specific to the competency area.




Dealing with Challenging Students

[CLICK HERE](#) for Recommended Learning Plan


What’s Available?

Title of Program	Delivery Modality	Estimated Completion Time	Brief Description
“Late Again”	Webinar (recorded)	1 hour	TBD
“Lack of Empathy”	Online Module	2 hours	TBD
“Did he Just do That?”	LIVE (06/15/15)	4 hours	TBD

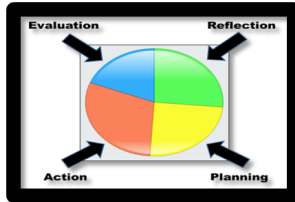
Feedback




Learning Community



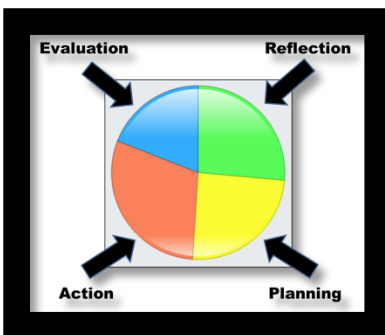
CPD Process




Have question or need tech support?

Continuing Professional Development (CPD) process

Although the CPD process has been described above, a more detailed discussion on the relationship between the prototype and this process has been outlined below. As preceptors access each puzzle piece, they would have an icon (example below) that would track their progress through the four stages of reflection, planning, action, and evaluation. As they progressed through the stages, the sections (or in this example – pie pieces) would be change color. This will help the preceptor to easily track where they are in the process.



“Reflection” Phase:

As the preceptor begins taking students, input feeds into the platform that pertain to each of the core theme/competency areas. Inputs can be self-originating or externally originating and will include feedback from students (evaluations of rotation experiences), feedback from site visits (Office of Experiential Programs Staff), feedback from peers (evaluations by colleagues in field), and self-assessment (reflection on how individual feels they are doing). The individual's self-assessment will be driven by either internal or external motivation. Many preceptors will have the drive to be the best they can be, while others will need to see the consequences/awards for doing something. Individuals may reflect on a “crisis” they have had with their student or a discussion they had with another preceptor. Or the realization that they are interested in this aspect of their professional competencies as a component of their overall CPD (for continued licensure) learning plan. There are many potential triggers for self-reflection. An automated process could be developed that would utilize inputs to determine if a particular core theme/area is in need of further development. One possibility would be that the graphical representation of theme categories would change colors depending upon their status (acceptable vs. not addressed vs. remediation necessary). Thresholds for the automated process and logistics for coordinating collection of this diverse information would need to be determined.

“Planning” Phase:

Within each core theme/competency area, a diversity of curated content and a self-directed option would exist. The content would be provided in a variety of media and modalities. They would vary in length and be offered both synchronously and asynchronously. There would also be “recommended plans to navigate the section” made available to users who were interested or needing a rapid solution to a situation. These “plans” would provide them with an organized approach to the information provided in that particular section. If individuals were not interested in these “recommended plans” than they would have opportunity to navigate the site on their own. Individuals would select programs that best fit their needs and document in the online CPD portfolio why they are selecting each program.

“Action” Phase:

As individuals complete the modalities they selected in their planning phase, they should be asked to perform a pre-test, immediate post-test, and delayed post-test to determine impact on their learning. If they had selected a self-identified option for learning (such as a journal article or other non-curated program), they would be provided with a catch-all form called a “learning transfer log”⁴³ to document their learning which would have to be reviewed by their live or online community of practice or by someone at their Faculty to allow for discussion opportunity. The tests could be used for individual purposes, or could be utilized for larger studies to determine the effectiveness of a given modality. To date, the literature is limited in showing the effectiveness of all modalities, LIVE programs/workshops and online modules have been the most studied. In each instance they have clearly shown effectiveness in improving content knowledge and self-efficacy immediately following completion of the program, but there is no consistent evidence that this effectiveness persists over time. More important outcomes, including measures of student performance or impact on patient care should be considered as future research areas.

“Evaluation” Phase:

Preceptors will be asked to evaluate (through reflection) whether the program(s) they have completed helped them to enhance the theme or competency that was in need of remediation. It might be weeks later that the answer will be known. Through a series of guided questions, they can determine if they have and the core area will change back to an “achieved” area color. Self-directed undertakings would prompt a review of the learning transfer log to update the findings. If they determine there is still more work to be done, they will go back through the Reflection, Planning, and Acting stages of CPD process again. At the point where the person returns to do their reflective evaluation, they will be offered a menu of other topics that might be of interest to them or maybe a quick quiz to see what else might hook their attention. Notices of live events coming up in their region or web-based opportunities will also be provided. Note: Automated reminders will be sent to preceptors and Experiential Education administrators to remind them of preceptors’ progress in development of their CPD portfolio.

CONCLUSION:

The focus in this paper has been the design and features of a national preceptor development program learning portal/platform, an electronic medium. Although this may appear to be the most important aspect of the report, its real value will be in its ability to encourage preceptors to interface with other preceptors and experts/facilitators in the field. These interfaces could be in person (ideal but not always possible) or online through the use of videoconferencing technology. There is also the potential for preceptors to have reports automatically generated in a format conducive to inserting into their overall professional CPD plans so that these learning ‘artifacts’ exist along with their other portfolio content. Development of a program of this scale and scope will take the successful collaboration of a number of entities including colleges, schools, faculties, professional organizations, state/provincial boards, and stakeholders. It will also require significant resources (staff, money, technology, etc.) and time to accomplish. Although these barriers should be acknowledged, they should not prevent creation of an innovative preceptor development strategy. A quality assurance strategy targeting each of the areas described in this report will be critical to the success of this initiative. Installment four of priority 3 will focus on the components of a quality assurance program to measure the effectiveness of a comprehensive electronic preceptor learning portal/platform.

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