

Development of a Supervisory Skills Course for Hospital Pharmacy Workplaces

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ABSTRACT

Background and Objective: Many Canadian hospital pharmacies are experiencing difficulties recruiting supervisory personnel. It was expected that, through a “learning-by-doing” course, pharmacy staff would learn to apply basic skills in the day-to-day supervision of pharmacy operations and human resources and to apply the principles of supervisory documentation.

Methods: A supervisory skills course targeted to pharmacy staff members was developed and implemented by the pharmacy department of a large urban health region. The course was initially offered to practising pharmacy technicians. The course design emphasized a constructivist framework incorporating authentic learning and reflective practice during seminars, with experiential and self-directed learning in the workplace. Preceptors assisted learners to achieve the course goals. Learners and preceptors provided feedback about hours spent (as the course progressed) and about their satisfaction with the course itself (at the end of the course). Learners and preceptors completed a post-program evaluation 2 months after completing the course to help in the assessment of the transfer of learning (lasting impact) associated with the course. Overall performance in the course was assessed on a pass/fail basis.

Results: Eighteen pharmacy technicians were admitted to the program, but one withdrew because of a job change. All learners successfully completed the course. Two months after the course, learners and preceptors described enhanced organization, time management, leadership, communication, and conflict-resolution skills on the part of learners, as well as their increased confidence, maturity, and ability to supervise staff. Learners' evaluations revealed a broadened perspective of pharmacy. The preceptors valued the enhancement of learners' skills and their increased enthusiasm. At the time of writing, 6 of the participants had secured supervisory positions.

Conclusion: Creating formal instruction that engages pharmacy staff to pursue management positions is challenging. Instructional design grounded in constructivist theory and incorporating authentic learning experiences and reflection resulted in high learner satisfaction with learning outcomes.

Key words: supervisory skills, pharmacy technicians, pharmacists, professional development in the workplace

RÉSUMÉ

Contexte et objectif : De nombreuses pharmacies hospitalières au Canada ont des difficultés à recruter du personnel cadre. On escomptait que, par le truchement d'un cours « pratique », les employés de la pharmacie puissent acquérir les compétences de base pour la supervision au quotidien des activités de la pharmacie et des ressources humaines et qu'ils pourraient appliquer les principes de la consignation exigée par la supervision.

Méthodes : Un cours sur les techniques d'encadrement destiné au personnel de la pharmacie a été élaboré et mis en œuvre par le service de pharmacie d'une grande région de la santé urbaine. Le cours a d'abord été offert aux techniciens en pharmacie en fonction. La formule de cours mettait l'accent sur un cadre pédagogique constructiviste incorporant un apprentissage authentique et une pratique réflexive dans le cadre de séminaires, ainsi qu'un apprentissage expérientiel et autodirigé en milieu de travail. Des précepteurs ont aidé les apprenants à atteindre les objectifs du cours. Les apprenants et les précepteurs ont fait part de leurs commentaires sur les heures consacrées à l'apprentissage (au fur et à mesure du cours) et sur la satisfaction relativement au cours (à la fin du cours). Les apprenants et les précepteurs ont rempli une évaluation deux mois après la fin du cours pour évaluer le transfert des compétences (effet durable) issues du cours. La réussite du cours a été évaluée globalement par une note de passage ou d'échec.

Résultats : Dix-huit techniciens en pharmacie ont été admis au cours et un a abandonné à cause d'un changement d'emploi. Tous les apprenants ont réussi le cours. Deux mois après le cours, les apprenants et les précepteurs ont décrit une amélioration des compétences relatives à l'organisation, à la gestion du temps, au leadership, à la communication et à la résolution de conflits de la part des apprenants, de même qu'une plus grande confiance, maturité et capacité à superviser le personnel. Les évaluations des apprenants ont révélé une perspective élargie de la pharmacie. Les précepteurs ont apprécié l'amélioration des compétences des apprenants et leur plus grand enthousiasme. Au moment d'écrire cet article, six des participants à ce cours avaient obtenu un poste de superviseur.

Conclusion : La conception d'un enseignement systématique qui éveille l'intérêt du personnel de la pharmacie à occuper un poste de cadre constitue un défi. Une formule d'enseignement ancrée dans la théorie constructiviste et incorporant des expériences d'apprentissage authentique et la réflexion ont donné aux apprenants une grande satisfaction quant à leurs résultats pédagogiques.

Mots clés : techniques d'encadrement, techniciens en pharmacie, pharmaciens, perfectionnement professionnel en milieu de travail

[Traduction par l'éditeur]

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INTRODUCTION

Many Canadian hospital pharmacies are experiencing difficulties recruiting personnel to work in supervisory or managerial roles. Among the top barriers to assuming a pharmacy management role are lack of experience in management positions and lack of confidence in one's own leadership abilities.¹ Management training programs available in Canada are not designed to meet the needs of contemporary hospital pharmacy workplaces.

To address this gap, we created an elective experiential course that emphasized use of a constructivist framework, authentic learning experiences, and reflective practice to enhance the acquisition and application of supervisory knowledge and skills as they relate to the hospital pharmacy workplace (Figure 1). A constructivist framework ensures that learning is constructed through active participation in and reflection on authentic, meaningful learning experiences.²⁻⁴ The goals of the course were to enable practising pharmacists and pharmacy technicians to apply basic skills in the day-to-day supervision of pharmacy operations and human resources and to apply the principles of supervisory documentation in a pharmacy workplace context. This manuscript describes the instructional design, implementation, and evaluation of this course for

the initial cohorts, which consisted entirely of pharmacy technicians.

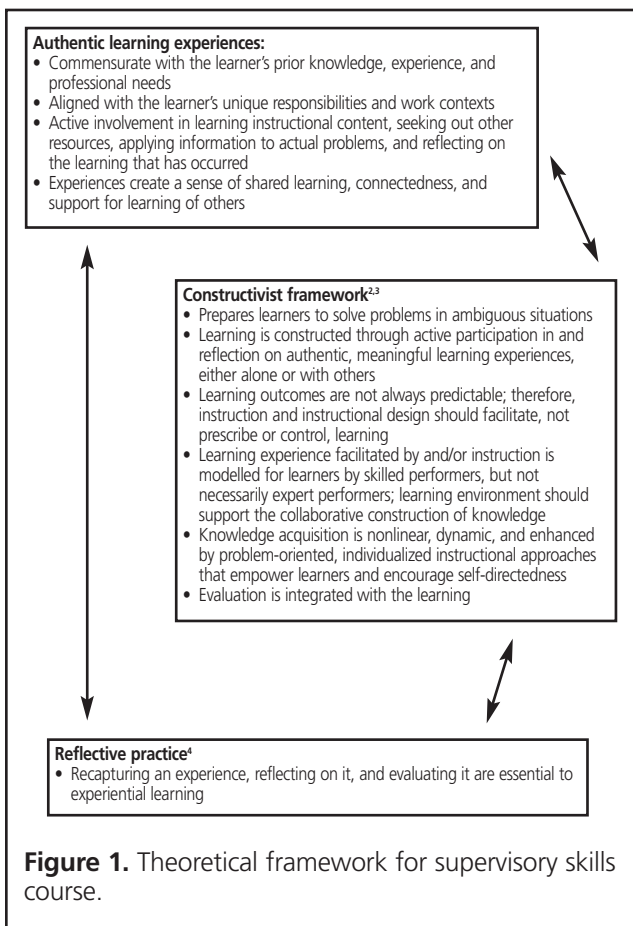
METHODS

The Winnipeg Regional Health Authority (WRHA) is a publicly funded organization that delivers and manages acute, long-term, and community health services in Winnipeg, Manitoba (population catchments 800 000). The pharmacy staff of the WRHA Pharmacy Program consists of about 150 full-time equivalent unionized pharmacists and about 200 full-time equivalent unionized technicians, who deliver and manage pharmacy care at 8 hospitals with a total of approximately 2000 beds. The WRHA Pharmacy Program provides education through its accredited pharmacy practice residency program, continuing professional development programs in the workplace, and experiential programs for pharmacy and pharmacy technician students.⁵ The course described in this article was the original supervisory skills course within the continuing professional development offerings of the WRHA Pharmacy Program. The course materials described here will form the basis for future formal, individualized instructional support of pharmacy practice residents, newly hired supervisors in the WRHA Pharmacy Program, and other staff in the Pharmacy Program for whom development of supervisory skills is part of their performance management plan.⁶

Instructional Design

The analysis phase of course development consisted of a needs assessment; development of instructional goal statements and learning objectives; analysis of learner, instructor, and organizational characteristics, resources, and constraints; and instructional analysis. During this stage, it was established that by the end of the course, learners would be expected to be able to apply basic skills in the day-to-day supervision of pharmacy operations and human resources and to apply the principles of supervisory documentation. The key course deliverables are listed in Box 1.

The course content (seminar topics, readings, and activities), designed to achieve the instructional goals and objectives (as listed in Box 2), was based on needs determined through a job task analysis of job descriptions within the WRHA Pharmacy Program, consensus-building discussions among experienced managers within the WRHA Pharmacy Program, and review of published competencies for health care managers.⁷ Potential learners were assumed to have the entry-level skills of newly graduated pharmacists and pharmacy technicians⁸; however, it was also recognized that individual learners might require assistance with skills rarely used in their particular job roles, whereas they would likely exceed the minimally competent level with regard to other skills. Instruc-



Box 1. Key Deliverables of the Supervisory Skills Course Offered by the Pharmacy Program of the Winnipeg Regional Health Authority

Write a procedure (major project): make a project plan, write the procedure, get verbal and/or written feedback from stakeholders, make an implementation plan, make a training plan, deliver the training, implement the procedure, obtain evaluative feedback, revise the procedure if necessary, and prepare a written project report of quality acceptable to the preceptor and course coordinator

Activity report (mini-project): make a project plan, analyze existing data, prepare a report, and verbally present the report to the preceptor (optional presentation to a management team or peers)

Prepare, with minimal supervision, at least one monthly work schedule for pharmacy technician staff members, prepare payroll, and submit payroll corrections

Supervise workflow in an assigned service area

Maintain equipment and/or facilities in an assigned service area

Revise personal resumé (curriculum vitae) and maintain a learning portfolio (to contain, at a minimum, examples of letters, memos, assignments, presentations, reports, lectures attended, etc).

Attend and actively participate in seminars

Submit self-evaluation of performance in the course, evaluate the preceptor and course, and provide a statement of hours invested in the course, at defined intervals

tional analysis revealed that the following learned capabilities were most important to the achievement of the course goals: information, application, procedural, and problem-solving. Accordingly, higher-level learning objectives predominated^{9,10} (Box 2).

Educational Environment

The analysis of resources and constraints identified multiple issues that affected instructional design. Specifically, the course was to be delivered to unionized personnel during paid work time (2015 paid hours per full-time equivalent), was to build upon the learners' existing capabilities, and was to be completed within 12 months. The course could not confer an academic credential, nor could the design lead to the singling out of individuals who would be promoted to supervisory positions. Course-related activities had to be achievable by all learners within the time allotted for the course and had to allow for flexible scheduling within the terms of the collective agreement and according to the operational needs of the learner's work area and the availability of preceptors. Learner control sequencing was strongly recommended, because it permits learners to select learning objectives and to develop their own sequence for completing them.¹¹ Because of limited preceptor availability, operational considerations, and limited instructional resources, the cohort size was limited to 6 learners. The course was designed as a half-time "rotation" over 12 weeks (232 paid hours expected, regular time) consisting of half-day (4 paid

Box 2. Instructional Objectives of the Supervisory Skills Course offered by the Pharmacy Program of the Winnipeg Regional Health Authority

Module 1: Human resources and supervision of pharmacy operations

Instructional goal: Apply basic skills in the day-to-day supervision of pharmacy operations and human resources.

Instructional objectives:

- 1.1 Describe the organization of the hospital and the pharmacy department as it relates to resolving human resource or operations issues.
- 1.2 Provide direct supervision of pharmacy staff in a designated area of pharmacy.
- 1.3 Use laws, agreements, standards, policies, and budgets to support decision-making in a supervisory environment.
- 1.4 Contribute to evaluation of staff and staff performance in interviews and in an area of assignment.

Module 2: Supervisory documentation

Instructional goal: Apply principles of supervisory documentation and written communications.

Instructional objectives:

- 2.1 Use a systematic process to develop and/or maintain a procedure manual.
- 2.2 Use a systematic process to develop an activity report.
- 2.3 Use a systematic process to maintain pharmacy equipment and facilities.
- 2.4 Use a systematic process to create an orientation plan relevant to a practice site where a new staff member will be working.
- 2.5 Use a systematic process to prepare written or verbal communications of a supervisory nature.

hours expected) seminars held on a fixed weekly schedule plus 15 paid hours per week (expected) of experiential activity scheduled by mutual agreement between each learner and his or her preceptor.

To minimize the impact of the course on patient care, the Pharmacy Program's management team made a commitment to hire additional term-position pharmacy technicians to replace learners during their course absences. The WRHA Pharmacy Program initially approved funding for 3 cohorts of 6 technicians. Pharmacy technicians were selected for the inaugural offering of this course because of the ease of recruiting technicians into the term positions and because the management team already had an organizational plan to develop and hire pharmacy technicians as leaders of the drug distribution systems of the future. Admission criteria were permanent full-time employment as a pharmacy technician, with at least 5 years' work experience in WRHA facilities, and submission of a curriculum vitae, letter of intent, and reference letter from the current supervisor. Referees scored the applicants relative to their peers with regard to leadership qualities and potential to be successful learners. Scoring to determine rank order of applicants was based on the quality and completeness of the application; the applicant's work- and project-related experience, publications and presentations, awards, and professional

involvement; the quality of the written statement; and references. Before the course was marketed to all pharmacy technicians through workplace e-mail, the management team of the WRHA Pharmacy Program, legal counsel from the WRHA Human Resources department, and the union representing pharmacy technicians and pharmacists reviewed and agreed to the admission criteria, applicant scoring system, learning objectives, instructional design, and learner and course evaluation plans.

Instructional Components

The course consisted of 2 modules. The first module included a systems approach to human resources and the supervision of pharmacy operations (Box 2). This content was delivered through a combination of seminar discussions, job-shadowing, and work experience or role assumption under the guidance of a preceptor (Table 1). Classroom-based seminar discussions were used to debrief learners about their experiences

Table 1. Overview of Instructional Objectives, Seminar, and Experiential Activities for the Supervisory Skills Course

Deliverable	Instructional Objectives	Week	Activities (Readings)
Project planning	2.1	Seminar, week 1	<i>Seminar discussion theme:</i> Writing a project plan
Procedure writing	2.1, 2.5	Seminar, weeks 2, 7, 9, 10 Experiential activities, weeks 1–12	<i>Seminar discussion theme:</i> Procedure-writing (<i>Guide to Managerial Communication</i> ¹²) <i>Experiential activities:</i> Select a procedure to write or revise, draft procedure, consult stakeholders, obtain feedback from preceptor regarding draft procedure, discuss plan and have it approved by preceptor, re-evaluate procedure in light of information obtained during implementation phase, prepare draft of report, and receive feedback from preceptor
Training plans	2.4	Seminar, week 5 Experiential activities, weeks 3–6	<i>Seminar discussion theme:</i> Training plans <i>Experiential activity:</i> Prepare implementation plan for procedure; role assumption during several weeks of the course
Data management	2.2	Seminar, week 6 Experiential activities, weeks 3–6	<i>Seminar discussion theme:</i> Data management—collecting, summarizing, and presenting data in presentations and reports <i>Experiential activity:</i> Mini-project
Pharmacy organization and institutional structure	1.1, 1.3	Seminar, week 2 Experiential activities, weeks 1–4	<i>Seminar discussion theme:</i> Overview of pharmacy standards (<i>Handbook of Institutional Pharmacy Practice</i> ¹³) <i>Experiential activities:</i> Self-directed observation and reflection; discuss application to project plan with preceptor; job-shadow and discuss application to project plan with preceptor; role assumption (limited)
Pharmacy standards	1.3	Seminar, week 1 Experiential activities, weeks 1–4	<i>Seminar discussion theme:</i> Overview of pharmacy standards (national accreditation standards, provincial pharmaceutical association, provincial and national standards of practice, <i>Handbook of Institutional Pharmacy Practice</i> ¹³) <i>Experiential activity:</i> Prepare and deliver training related to the procedure that the learner wrote or revised
Scheduling	1.2, 1.3	Seminar weeks 3, 4 Experiential activities, weeks 1–12	<i>Seminar discussion theme:</i> Scheduling, creating master rotations, budget and labour board considerations, collective agreements, duty to accommodate, safe work legislation (<i>Handbook of Institutional Pharmacy Practice</i> ¹³) <i>Experiential activity:</i> Role assumption, in the form of preparing schedules, preparing and submitting payroll data
Behavioural interviewing; resumé writing	1.4	Seminar, week 11	<i>Seminar discussion theme:</i> Behavioural interviewing, reference writing, resumé writing, review of learning portfolio
Supervision of workflow	1.2	Experiential activities, weeks 1–12	<i>Experiential activity:</i> Job-shadow and discuss application to workplace with preceptor; role assumption (limited)
Maintenance of equipment and facilities	2.3	Experiential activities, weeks 1–12	<i>Experiential activity:</i> Job-shadow and discuss application to workplace with preceptor; role assumption (partial) during several weeks of the course

in the course, to engage learners in reflective discussion about past experiences and the application of knowledge to the course deliverables, and to provide social interaction for knowledge construction, consistent with the course's constructivist framework.^{14,15}

The second module, which was largely project-based, focused on supervisory documentation of policies and procedures, project management, report-writing (e.g., financial, quality), and maintenance of pharmacy equipment and facilities. Project-based instruction was selected for 3 main reasons: projects are a reality of supervisory work, the project results would provide both authentic learning experiences and a lasting benefit to the learner's work team, and projects offered maximum flexibility for selection of topics that would be meaningful for the learner-preceptor pairs.¹⁶ The selection of project topics was based on utility to the WRHA Pharmacy Program and agreement among the learner-preceptor pairs. Learner-control sequencing was permitted; however, learners and preceptors were also oriented to the recommended lesson plan, which sequenced the instructional content of the seminars and the key experiential activities of the course (Table 1).

Instructional components included interactive seminars, which incorporated reflection on learning and peer debriefing, followed by activities designed to aid in the "transfer of learning" of these concepts, which were supervised by a preceptor. To ensure that learners were introduced to a variety of information sources, resource people, and practice settings, multiple instructors facilitated the seminars. These instructors were drawn from the pool of experienced supervisors in the WRHA Pharmacy Program and the pharmacists of the program's Practice Development Team. Instructional content for about one-third of the seminars was taken from existing courses offered by the WRHA Organization and Staff Development department. Using established methods of experiential learning,¹⁵ the instructors presented information related to one or more specific principles, elicited learners' experiences, and, using discussion guide questions, led discussions about the application of the principles to real-life situations. For example, as part of one seminar, "Safe Work and Human Rights Legislation," learners were asked to consider workplace safety in the context of their own experience and in the form of supervisor role-assumption scenarios (Box 3). Learners then completed experiential "transfer-of-learning" activities in their primary area of work assignment, largely under the preceptorship of their direct supervisors. The preceptors were experienced pharmacist managers who were willing to participate and work with technician learners.

Course Coordination

This course was coordinated at a distance from the learners, preceptors, and seminar instructors, according to principles of asynchronous distance education (Box 4).¹⁷ Each learner and preceptor was given a course syllabus containing the learning

Box 3. Aspects of Seminar on Safe Work and Human Rights Legislation

Required reading

Handbook of Institutional Pharmacy Practice, Chapter 18: Personnel relations¹³

Optional readings and resources

- Canadian Human Rights Commission: Duty to Accommodate
Available: www.chrc-ccdp.ca/preventing_discrimination/accommodate_adaptation-en.asp
- Manitoba Workplace Health & Safety Act
Available: <http://web2.gov.mb.ca/laws/statutes/ccsm/w210e.php>
- Manitoba Workplace Safety & Health Guidelines
Available: www.gov.mb.ca/labour/safety/guidelines.html

Discussion questions

- What does workplace health and safety include? Who decides what things must be done in a workplace to protect workers?
- You are a supervisor of the main dispensary and one technician comes to you with a complaint that she or he is being harassed by another employee. What is your role as a supervisor?
- A pharmacy technician is refusing to prepare injectable cytotoxic chemotherapy medications in the sterile room. What would be your reaction and responsibility as a supervisor?
- What is the Workplace Hazardous Materials Information System (WHMIS)? What are the responsibilities of supervisors regarding WHMIS in the workplace?
- You fail to maintain the WHMIS manual in your area. What could be the expected penalty?
- You fail to maintain the equipment in your area of supervision and a member of your staff becomes injured as a result. What could be the expected penalty?
- The employees under your supervision insist on wearing open-toed shoes. As a supervisor, what will you do to resolve this situation?
- An employee who is a member of a racial minority group approaches you to say that he feels his coworkers do not accept him. Although his coworkers have said nothing to him that could be interpreted as "racist", his coworkers exclude him from invitations to join them for coffee or lunch breaks, they do not tell him about new rules or duties, and they criticize him for not doing what is expected. He feels so unwelcome in the work group that he is considering quitting. As a supervisor, how would you deal with this situation?

goals and objectives, a recommended lesson plan, a statement of responsibilities of learners and instructors, all required readings for each week of the course, and assessment forms. Preceptors and seminar instructors attended a 1- to 1.5-h one-on-one orientation to the course with the course coordinator (D.M.M.W.), during which options for seminar facilitation or supervision of the major and mini-projects were explored, and questions about lesson planning, assessment processes, and timelines were answered.

Assessment of Learners' Performance

Preceptors formally assessed learners' performance, and learners self-assessed their performance relative to the learning objectives according to standardized performance descriptors at weeks 4, 8, and 12 of the course. A strong emphasis was placed

Box 4. Strategies Used to Coordinate a Course “at a Distance”¹⁷

Provide a “help desk” or hotline to assist learners and preceptors in the early stages of course implementation.

Ensure that learners and preceptors receive course materials in advance of the course start date.

Provide a variety of communication links with the course coordinator.

Communicate a clear description of course requirements, important dates, resource materials, major assignment timelines, and assessment timelines early in the course.

Make available confidential and individualized coaching to assist learners and preceptors in the early stages of learning.

Provide opportunities for learners to get to know one another, for collaborative problem-solving and mutual support

Send weekly pacing e-mails to learners, preceptors, and seminar instructors, reviewing what should have been accomplished at that point in the course; reiterating the seminar theme and learning objectives for that week; providing reminders about required readings for seminars and timelines for upcoming major assignment and assessments; and giving information about how to access help (direct instruction, coaching, mediation) with course requirements or preceptor/learner issues

on feedback; therefore, preceptors integrated informal formative assessment with the learning activities, especially during in-class and experiential role-assumption exercises and through evaluation of notes, early drafts, and final submission of the components of each project. Overall performance in the course was assessed on a pass/fail basis.

Course Evaluation Methods

Learners and preceptors provided feedback about hours spent on course activities (as the course progressed) and about satisfaction with the course (at the end of the course). This information was used to adjust the course content and delivery for successive cohorts. Learners and preceptors completed a postprogram evaluation 2 months after completion of the course to aid in the assessment of the transfer of learning (lasting impact) associated with the course. Learners also completed a prior learning assessment before the course, which was used to guide individual learning plans and which was repeated after the course. Prior learning assessment is a systematic process that identifies the learning that an individual has acquired through education and experience.¹⁸ Evaluations were submitted to one of the authors (C.B.R.), who was not the course coordinator, and the deidentified aggregate results were presented to the course coordinator (D.M.M.W.) and instructors.

RESULTS

Of 32 applicants, 18 pharmacy technicians were admitted to the course, but 1 withdrew before the course started because of a job change. The remaining 17 learners successfully completed all course requirements and passed the course. A total of

10 individuals participated as preceptors; several of these preceptors had multiple learners either concurrently or sequentially. The members of each preceptor–learner pair were given the opportunity to complete the end-of-course and postprogram evaluations; therefore, the number of course evaluations for preceptors exceeded the number of individual preceptors. The overall time commitments for the course consisted of a total of 4029 paid hours for the 3 cohorts, comprising an average of 184 hours per learner for learners, 41 hours per learner for preceptors, and 12 hours per learner for instructors (which includes 2 hours of preparation time per seminar). The participants’ time commitment was less than expected (184 hours rather than 232 hours) because of absences (e.g., vacation, days off for weekend shifts) on weekdays when preceptors and instructors were available. All learner–preceptor pairs participated in some degree of learner-control sequencing of course material and objectives.

Upon completion of the course, learners expressed general satisfaction with the course: 16 (94%) of the learners felt that the learning objectives were achievable and educational, 16 (94%) felt that the learning objectives were clearly stated, and 15 (88%) felt that the structure of the course was adequate to allow them to meet the learning objectives. Two months after completing the course, 9 (53%) of the 17 learners were very satisfied with the course, and 8 (47%) were somewhat satisfied. Preceptors who submitted evaluations at the end of the cohort were generally less satisfied: 1 (7%) of 15 respondents was very satisfied, 6 (40%) were somewhat satisfied, 5 (33%) were neutral, and 1 (7%) was somewhat dissatisfied with the course (2 preceptors did not respond to this question).

All learners and preceptors described the sustained impact of the course on knowledge, skills, or behaviour in the 2-month period after completion of the course (Table 2). Learners and preceptors were in the greatest agreement about organization and time management, confidence, maturity and leadership, communication, and conflict-resolution skills, as well as some human resources skills. In addition, through successful development and implementation of pharmacy-related procedures (through the procedure-writing major project), all learners demonstrated application of the principles of supervisory documentation. Comments on evaluation forms revealed that preceptors and learners valued the course products (e.g., the procedures developed) and personal growth as the most meaningful measures of success in the course.

Negative aspects included the increased workload associated with serving as a preceptor. In addition, some learners expressed frustration at the lack of opportunity to apply their new skills in their current jobs after the course ended. Recommendations from learners included a suggestion to provide additional computer skills training. Many learners advocated for a more condensed course, with greater time for group work. Preceptors indicated a desire for more orientation to and training for the course and their role as preceptors.

Table 2. Program Evaluation 2 Months after Course

Question and Responses	Group; Response*	
	Learners	Preceptors
Most important thing I / the participant learned		
Organization, time management	+	+
Scheduling, human resources, duty to accommodate	+	+
Broadened perspective of pharmacy and health system	+	
Computer skills	+	
Project management skills		+
Project (pharmacy procedure) work		+
Things from the course that I have / the participant has applied in practice		
Confidence, maturity, leadership	+	+
Conflict resolution or accountability	+	+
Scheduling, human resources, duty to accommodate	+	
Broadened perspective of pharmacy and health system	+	
Organization, time management	+	
Communication skills (verbal, written)		+
Project (pharmacy procedure) work		+
Some things I / the participant found difficult before, but now can do well		
Demonstrate confidence, maturity, leadership	+	
Employ communication skills (verbal, written)		+
Most useful or helpful things since the course		
Broadened perspective of pharmacy and health system	+	
Scheduling, human resources, duty to accommodate	+	
Confidence, maturity, leadership		+
Increased attitude, enthusiasm toward work		+
Thing(s) I haven't liked or problems I've had		
None		+
Recommendations for future†		
Increased computer training (or prerequisite)	+	
More condensed course	+	
Preceptor training		+
Increase time for preceptor / learner		+

*Some preceptors supervised multiple learners within or across cohorts, so the number of responses exceeded the number of individuals serving as preceptors. A plus sign (+) indicates an affirmative response by at least 25% of respondents ($n = 17$ [100%] of learners and 15 [88%] of preceptors).

†Comments were aggregated into common themes. Questions were open-ended and multiple responses were possible.

The prior learning assessments undertaken before and after the course were useful in both determining individual learning needs and planning areas for additional learning upon conclusion of the course (e.g., performance management planning).

DISCUSSION

We sought to develop and deliver a course that would enable learners to apply basic skills in the day-to-day supervision of a hospital pharmacy. The primary (constructivist) instructional strategy was to challenge learners to engage in uncertain and unfamiliar contexts in the real-world work environment, supported by small-group and personal reflection. That the course was successful in achieving this goal is reflected in successful completion of the course by all learners, high learner

satisfaction, and persistent transfer of learning, as identified by preceptors and learners at least 2 months after the course ended.

The successes achieved in delivering this course to practising pharmacy personnel in the workplace led to the course materials being used to train new pharmacy technician and pharmacist managers, as well as pharmacy residents within the WRHA Pharmacy Program. Our experience indicates that this innovative course would be suitable for structured training of selected learners in small or large pharmacy departments, pharmacy practice residency programs, or undergraduate pharmacy programs that use co-op work placements for the experiential portion of the program. Conversely, this course might not be transferable to academic programs, where learners may have limited work experience or limited prior

knowledge of the workplace in which the experiential activities are being delivered.

The course had minimal direct instruction, and experiential activities under the guidance of seasoned supervisory personnel formed the majority of learning activities. We used 3 guideposts of experiential learning methods for adults, namely knowledge synthesis, learner control, and transfer of learning.¹⁴ Knowledge synthesis was accomplished through the in-class seminars, which incorporated reflection on learning and peer debriefing sessions facilitated by an instructor. The seminars constituted about 20% of course time and were used to encourage the sharing of personal points of view and reflection. Role assumption also required reflection, which occurred via discussions and story-telling during structured seminars and through unstructured discussions between individual preceptors and learners. Learner control was accomplished through self-directed projects and activities. Transfer of learning was accomplished by alternating between direct instruction or facilitation (seminars) and application of skills and concepts (projects, job-shadowing, role assumption, reflection-in-practice).

Educating for capability is a reality and challenge of workplace learning, and providing training at the level required to graduate a competent manager was not within the course goals.¹⁹ Nonetheless, the facts that 6 participants secured supervisory positions and other participants exhibited cognitive dissonance confirms that the course goals were realized. "Cognitive dissonance is a psychological phenomenon which refers to the discomfort felt at a discrepancy between what you already know or believe, and new information or interpretation".²⁰ Many participants said that participating in the course made them question their confidence in their ability to perform independently in a supervisory role. Other participants realized that they did not know what they did not know (about supervising others and about their current level of supervisory skill) or that additional learning could enable them to undertake supervisory roles.

The delivery format proved effective for accomplishing the course objectives in a workplace environment. Offering the course to 3 consecutive cohorts enabled refinement of selection of preceptors and projects, course content, delivery format, and course administration. Extensive use of reflective learning strategies and self-directed projects maximized the utilization of scarce preceptor resources and ensured transfer of learning between instructional, application, and job (time outside the course) contexts.¹⁴ Although the learners expressed a preference for the course to be condensed to a full-time schedule, this would have decreased the time available for incidental learning and reflection, which occurred between scheduled "class times".

This course proved to be as much a learning experience for the preceptors as it was for the learners, and the course and its evaluation are subject to limitations. In retrospect, scheduling additional preceptor meetings might have met some preceptors' needs for support and direction and might have led to greater

satisfaction with the course among the preceptors. Supplemental assistance was provided most often to learners who were partnered with preceptors who exhibited lesser skills in facilitation, coaching, and project supervision or management. In some instances, supplemental assistance was offered to preceptors who had a substantive concurrent workload that could not have been anticipated when the course was planned. In the postprogram evaluation conducted 2 months after course completion, preceptors expressed a strong desire for additional training of preceptors and additional time to spend with course participants. Subsequent delivery of this course will include careful selection and enrolment of preceptors in an experiential rotation to enhance their facilitation, coaching, and project management and supervision skills. Although the course evaluations were not submitted directly to the course coordinator, there was a potential for a positive response bias for learners and preceptors.

CONCLUSIONS

Developing the supervisory skills of personnel is a challenge in pharmacy workplaces, yet it is essential if these personnel are to be encouraged to pursue management positions. The creation of a formal educational program using instructional design grounded in constructivist theory allowed us to implement and refine tools that now form the basis for the training of new managers and pharmacy residents. Incorporating authentic learning experiences and reflective practice resulted in high levels of learner satisfaction with learning outcomes, and led to 6 participants (to date) securing supervisory positions.

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