

Title: A 360-Degree Assessment Model for Fostering Reciprocal Development of Professional Behaviors and Communication Skills Across Academic and Cooperative Education Experiences

Abstract: Higher education faculty members are challenged to design strategies that explicitly teach and reward student development of professional behaviors crucial for workplace success. Our 360-degree assessment model relies on standardized patients (SP) augmented by online communities of practice (CoP) to teach and evaluate student development and integration of the professional and communication skills necessary for cooperative education and professional practice. In the model, professional behavior and communication skills were examined from multiple perspectives including those of faculty, SP, peers, and self. Feedback from cooperative education employers was incorporated to assist with the development of SP cases that reflect current workplace needs.

Relevance of Research

Cooperative educational institutions must find ways to maximize and study outcomes related to the integration of academic and experiential learning. Cooperative education is central to the NU philosophy of education. With more than 600 students, the NU DPT program is the largest in the U.S, and the only one that requires participation in co-op. Participants in this study are similar to those in other disciplines and are just entering adulthood. For individuals at this stage of development, the attitudes, interests, values, and character development that underlie their behaviors may not be at a professional level.^{6,7}

Co-op provides an opportune means to begin cultivating in students communication and professional behaviors. Learning through experience has been described as a deepening of knowledge that is dynamic and changeable. Hutchings and Wutzdorff state, "...the integration of knowing and doing is not simply a matter of application but rather an ongoing interactive process in which knowledge and experience are repeatedly transformed."^{8(p.6-7)} The transformation of experience into knowledge can be facilitated by pedagogy that includes opportunities for reflection. Research by educators that examines student-learning outcomes and the transformation of knowledge is essential for support of the inclusion of a co-op element in professional programs.⁹

Methodology:

This study used a quasi-experimental repeat measures design with four phases. We had two main research questions:

- 1) Will the SP-CoP intervention provide faculty with a method to realistically assess PT student ability to communicate and demonstrate professional behaviors necessary for success on co-op?
- 2) Will the SP-CoP intervention have an impact on student communication and professional behaviors?

Setting and Participants

Northeastern University is a large urban institution in the U.S. whose educational philosophy embraces practical, experience-based learning throughout a student's college experience. Central to NU's educational philosophy is co-op, in which students' alternate periods of classroom study with periods of full-time employment related to career or personal interests. The physical therapy program at NU is a six and one-half-year clinical doctoral program in physical therapy (DPT). DPT students are required to complete two six-month co-op terms, one in the third year and one in the fourth year. Students on co-op are typically employed full-time as PT aides. DPT students also participate in two short-term opportunities for service learning, another form of experiential education. Sixth year students participate in a three-phase 28-week (eight-week, eight-week, and 12-week) clinical education component in which they are supervised and mentored by a clinical preceptor while assuming the professional role of the PT. Throughout the curriculum students experience many developmental transitions including high school to college, student to worker, worker to student, and worker to entry-level professional.

Project participants were 104 third-year DPT students and eight co-op employers. The employers' health care facilities staff is trained to supervise and assess PT student development during co-op.

Intervention

The Course

"Physical Therapy Professional Seminar I" is a 15-week course designed for 120 third-year DPT students offered in the spring semester immediately after Co-op I. In this course, students are expected to reflect upon and integrate their co-op experiences into course activities as they continue to develop the professional behaviors necessary for the field.

SP-CoP 360 Assessment Model

The model consists of an SP experience augmented by an online CoP. The model enables faculty to teach and assess students' acquisition and integration of professional behaviors and technical professional skills. It provides a 360-degree feedback loop on the student PT-SP interaction (Figure 1), and examines professional behavior and communication skill development from multiple perspectives that include the SP, faculty, peers, and self.

In preparation for the intervention faculty members, in collaboration with employers, developed paper-based case studies that depicted a complex patient. The cases were designed to assist students to develop and apply communication skills and professional behaviors required for patient interviews. Each case was complicated by realistic dilemmas. The case and guiding questions were posted on a Blackboard™ "Physical Therapy Professional Seminar I" website. CoPs of four to five PT students were created. Students and faculty communicated electronically about the case using Blackboard's™ discussion board feature to prepare for their SP experience.

SPs were recruited and trained by faculty to portray a particular patient case. Training each SP took approximately one hour. Each SP received a \$75 gift certificate as

compensation for serving as an SP for two or more student interactions. Each SP interaction lasted for 30 minutes and was videotaped.

Written feedback was provided to the students using an instrument entitled the “Professionalism in Physical Therapy: Core Values” (PPTCV). The PPTCV was designed for student self-assessment of professional behaviors and communication skills. To reflect on their learning, all students completed a self-reflective paper. At the conclusion of the SP-CoP interaction, students and faculty reflected together on the learning and on students’ experience with the model.¹¹

Protocol

Phase one: Pretest. Focus groups were conducted with eight PT co-op employers, who were purposively sampled, to determine their perceptions of student awareness of professional behaviors and communication in the workplace. Faculty used the information gathered from employers to develop the case studies. At weeks two through four, all 104 DPT students completed the PPTCV to self-assess their professional behaviors and communication skills.

Phase two: Intervention. All students in “Physical Therapy Professional Seminar 1,” received the SP-CoP 360-degree assessment intervention.

Phase three: Posttest 1. At course completion, all 104 students retook the PPTCV.

Phase four: Posttest 2. Four months into co-op 2 (April 09), all students will retake the PPTCV.

Outcomes:

Student participants were 104 (83 females) third year DPT students. Coop supervisor were 8 (4 females) with an average of 16 years experience. Two worked in hospitals and the remainder in private clinics.

Coop employers data:

A focus group was conducted with 8 co-op employers. Focus groups were tape recorded and transcribed verbatim. The purpose of the focus group was to query employers about their perceptions of what professional skills are critical for success on the job. Employers were asked to provide examples of professional skills observed in students that were both exemplary and non exemplary and how these behaviors impacted patient care or inter-professional relationships. These qualitative data were summarized into three major areas: basic job skills, learning, and professional skills.

Desired Skills: Basic Job

Basic job skills identified by the employers that were critical for work place success included: time management, punctuality, organization, professional dress, knowing the

scope of the job, ability to adapt to change –understand needs of the workplace, and flexibility.

Desired Skills-Learning

The skills related to learning that are desired in co-op students include the ability to take initiative and be self-directed and to look at a job as an educational opportunity.

Desired Skills-Professional Behaviors

Professional skills desired by employers included: ability to communicate needs and requests, effective interaction with other people, ability to adapt one's communication to level of listener and, respect for different ages and cultures. Another skill desired was for the student to become part of the fabric of the company.

Observed Behaviors:

Observed behaviors that were noted by employers are presented here that were classified as inappropriate. These observations were also clustered by either basic job, learning or professional skills.

Observed-Basic Job Skills

Basic job skills deficits included: limited attention to job rhythm, and poor professional appearance.

Observed-Learning

Observed behaviors included: lack of initiative and not turning mistakes into learning opportunities

Observed- Professional Behaviors

The most inappropriate professional behaviors cited by employers were student cyber multitasking and excessive cell phone use on the job.

Student Survey Data

Sixty-two (55 females) or (59.6%) of the 104 students completed both the pre and the posttest surveys. All 104 students completed the SP intervention.

Pre versus post intervention comparisons using paired t-tests were run for aggregate data and for each of the 7 sections of the PPTCV. All comparisons, except accountability, revealed a statistically significant higher posttest score. These results reveal a significant change in the positive direction for students' development of professional skill awareness (Table 1).

Table 1

PPTCV Time 1 versus 2	P value
Time 2 (post) versus time 1(pre) aggregate	P=.010*
Accountability	P= 0.139
Altruism	p=.031*
Compassion	P=.000*
Excellence	P=.026*
Integrity	P= .015 *
Professional Duty	P= .012*
Social Responsibility	P=. 001*

*significant at p=.05

Implications:

Our results support the need to create and implement experiential pedagogy that integrates professional and technical skill development. Benefits realized through our study were improvement of professionalism as noted by changes in the PPTCV scores. Inclusion of workplace supervisors strengthened our methodology and provided feedback useful for continued research and curriculum design.

Based on the data, it appears that the SP-CoP intervention change students' self-assessment of their awareness of PT Professionalism (core values). Our data indicate an increased student awareness of the core values, with the exception of accountability, as supported by a statistically significant change in both aggregate and in each individual section of the PPTCV pre and post intervention.

The 7 core values are accountability, altruism, compassion and caring, excellence, integrity, professional duty, and social responsibility. These skills comprise the DPT professional.

Conclusions:

We created a 360-degree assessment Model that relies on simulated patients augmented by online communities of practice to teach and evaluate student development of professional skills. Our proposed project evaluated, using a pretest, posttest mixed methodology, the effectiveness of the Model for facilitating awareness of professional and non-technical skills required for students aspiring to become a DPT professional. Feedback from employers was utilized to guide the development and assessment of a pedagogy that is experientially based. Our results indicated that the Model was successful in promoting an increase in student awareness of core professional values.

Our Model has potential applicability to other professional programs that whose graduates need strong non-technical skills required for success in the workplace. More

research is indicated to examine the longitudinal effectiveness of our intervention on promoting student professional skills, and the learning styles desired by employers.

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