Occupational therapy practice has become more complex and fast-paced in a managed care environment for third-party reimbursement. Where once clinical supervisors had time to train students and allow observation time prior to having students begin treatment, students are now expected to be immediately ready to deal with the complexities of practice on their Level II fieldwork experiences (B. Miller, personal communication, October 1, 2002).

Twenty years ago, it may have been acceptable for students to go to their Level II fieldwork at what Benner (1984) would consider the novice level (rigid, rule-based application of textbook knowledge and cases), but fieldwork supervisors are now expecting students to be able to deal with more complex situations in order to provide the highest quality of care to their clients or patients. Most clinical supervisors expect that the students function on at least what Benner would consider an advanced beginner level when they begin their Level II fieldwork. They are expected to be able to modify rules and principles to account for the specifics of a clinical situation.

**Methods to Prepare Students for Clinical Practice**

Medical educators have used problem-based learning for over 25 years and claimed that it prepared students to be better problem-solvers and more competent practitioners (Barrows & Tamblyn, 1980). Bruhn (1992) considered problem-based learning as “the only known method for preparing future professionals to be able to adapt to change, learning how to reason critically….” (p. 161). Barrows (1998) discussed three educational objectives of authentic problem-based learning. These objectives were: (1) acquisition of a rich body of deeply understood knowledge, (2) development of effective clinical problemsolving, self-directed learning, and team and interpersonal skills, and (3) development of an insatiable curiosity and desire to continually learn.

Problem-based learning consists of small groups of students working under the guidance of a faculty tutor. Students engage in self-directed learning in order to acquire and understand the knowledge needed to create a product (evaluation, treatment plan, or recommendations) for the carefully created “problem” that the faculty has developed. The faculty tutors meet with students several times a week to guide the students in a reflective and reiterative metacognitive (questions about the knowledge the students currently have or have recently gained) process to help them learn to think through the problem and work together as a group. Problems are created to allow students to meet specific curricular objectives for the course.

Many occupational therapy programs have adopted some form of problem-based learning to help students meet their educational objectives. VanLeit (1995) described how case studies provide the structure for problem-based learning, and discussed types of case formats that could be used in occupational therapy curriculums to improve clinical reasoning and problem-solving skills. Vroman and MacRae (1999) called for research that examined the effectiveness of problem-based learning in occupational therapy education. This charge was a very difficult one in light of all of the hybrids of problem-based learning that occupational therapy educators have creat-
ed to adapt the standard medical model features of problem-based learning to the more holistic and community-based needs of occupational therapy students.

One technique used in some medical education programs’ problem-based learning curriculums was having students evaluate standardized patients to gather information about the patient’s problems as well as to gain experience in evaluating a real person. A standardized patient is defined as “an individual who has been taught to portray a patient problem in a way that does not vary from student to student” (Ferrell, 1995, p. 14). Western Michigan University’s occupational therapy program has adapted the medical education standardized patient technique in the problem-based learning curriculum, and created standardized simulations of clients, family members, and team members in order to better prepare their students for complexities of practice and to hit the ground running on their Level II fieldwork. This article will analyze this university’s standardized simulations via faculty tutor and fieldwork supervisor’s comments, as well as students’ program evaluation data to support the use of standardized simulations in a problem-based learning curriculum.

**Standardized Simulations**

Western Michigan University’s occupational therapy curriculum has adapted the standardized patient experience into standardized simulations where well actors portray patients, clients, family members, or other team members in standardized encounters with occupational therapy students in their problem-based learning curriculum. The goal is that all of the students have the same standardized opportunity with the actor, so that the faculty is assured that the students have had the opportunity to deal with all of the curricular objectives in each case. Most of the problem-based learning cases include a standardized simulation; those simulations are of clients whenever possible, but may also be of a family member or another team member (i.e., teacher, certified occupational therapy assistant, physical therapist, etc.).

Actors are explicitly trained not to volunteer any information. Their training includes how to portray certain areas of concern, but they only provide the students the information that they specifically request. If the students do not ask if the person is married or has family, the actor will not offer that information, and the students will not have access to that information. The actors are trained to react consistently with different groups of students, so that the problem-based learning curriculum can build in any cultural, ethical, or pragmatic issues that may be relevant to a case and to the curriculum as a whole. Well-trained actors for standardized simulations have very high accuracy in clinical simulations. (Glassman, Luck, O’Gara, & Peabody, 2000; Pangaro, 1997; Vu et al., 1992).

Each standardized simulation encounter is followed by a faculty-guided problem-based learning tutorial that helps the students to think about their performance with the standardized simulation, and helps them to evaluate what they did well and what they could do better in the future. They are guided to compare their evaluations of their performance with the standardized simulation’s evaluation (a checklist completed by the actor that is given to them right after their simulation is finished). One of the main revelations that often emerged from the discussion was that the students decided that they were not as well prepared as they had initially thought, and would prepare differently for their next encounter.

Problem-based learning tutorial groups have the potential to be a community of student practitioners who can reflect on a case, under the guidance of a faculty tutor (experienced practitioner) who can help the students by facilitating reflection and critical analysis. The goal of the problem-based learning tutorial groups is that the reflection and critical analysis that is facilitated during the tutorial group will be internalized by the students so that they can continue the metacognitive process when they are outside of the tutor group and away from the tutor’s probing questions.

The standardized simulations allow the curriculum to give the students opportunity to gain experience in problem-solving and interpersonal skills that would be difficult to otherwise simulate in didactic environments. Rose and Willkerson (2001) stated “The student has to be able to establish rapport, ask questions in a clear and effective way, listen carefully, and respond appropriately in order to evaluate a standardized simulation” (p. 858). Students are also trying to perform “routines that aren’t yet automatic while at the same time establishing human connection and conducting a focused, purposive interview” (p. 858).

One of the benefits of the standardized simulations is that the students get feedback about their interaction skills from the information that they receive from the simulation actor. It is of course much easier for the students to criticize the actor’s credibility than to attribute their lack of information to their interaction skills; they often need the tutor’s probes to help them understand what they learn about themselves and how they communicate with the standardized simulation actor. It is also cited in the literature that “the impact of interpersonal communication allowed by standardized patient encounters can reinvigorate and rejuvenate the dynamics of problem-based learning” (Rose & Willkerson, 2001, p. 858).

Students are guided in reflection-on-action in the problem-based learning tutorial format through the metacognitive probes (questions) by the tutors. They are able to learn from taking risks in this safe environment. Making a mistake with a standardized simulation actor is a way to learn some valuable lessons without risk to a client. After students have processed and reflected on their action under the guidance of their tutor, what they may have initially perceived of as a failure may turn out instead to be a very powerful learning experience without risk to a client’s safety or well-being.

If the curriculum were using real clients or family members for the interactions with the students, the curriculum would be limited to that person’s particular situation. With the actors portraying the simulations, the curriculum has more control over the students’ learning opportunities since the curriculum does not need to be concerned for a real client’s safety and psychological well-being. This freedom allows the curriculum to incorporate the types of potential internal and external conflicts and constraints that affect clinical reasoning, as called for by Gibson et al. (2000).
Logistics

At Western Michigan University, one occupational therapy faculty member has served as the problem-based learning curriculum coordinator. She has recruited and trained the actors and supported the simulation by setting the stage with such props as a hospital bed and IV pole, catheter bags with yellow water, or furniture for a clubhouse setting. Actors are paid $10 per hour for the time they are in training and in session with the students. Community people as well as theater and occupational therapy students have played the roles in the standardized simulations.

Fieldwork Coordinator’s Evaluation

The fieldwork coordinator has stated that she has received very different comments from the fieldwork supervisors since the initiation of standardized simulations in the problem-based learning curriculum. She stated that supervisors report that students are now better able to see the big picture for a client. Prior to the standardized simulation experiences, students had reportedly focused more on what they had to do with a client instead of what the client needed at the time. Fieldwork supervisors have also reported that the students are now more independent in their learning, are more capable of working collaboratively with other therapists, and exhibit a higher degree of professional behaviors. Supervisors have also stated that when they do need to teach students how to perform a clinical skill, the students are better able to accept, absorb and apply constructive feedback to improve their performance (B. Miller, personal communication, October 1, 2002).

Faculty Tutors’ Impressions

During the standardized simulation encounter, we have observed students losing direction on what to do next with a client. We have helped the students process their evaluation after a standardized simulation and heard them admit that they were not really as prepared to do the evaluation as they thought they were. We have also seen them problem solve on their feet, and use their knowledge and creativity to work with a very difficult and manipulating person. After observing the benefits of the standardized simulations, the authors decided to evaluate the process more objectively by analyzing program evaluation data that we had collected over the previous five semesters and looking for support in the literature for the process.

Student Feedback via Program Evaluation

A university human subject institutional review board granted the authors permission to review the program evaluation data that were collected from the midterm and final program evaluation surveys of the previous five semesters in order to report the results of that data in this manuscript. The students had been given an open-ended survey that asked them to comment on the effect that each of the standardized simulations had on learning that semester. The overall theme that emerged from the program evaluation analysis was that the students valued the standardized simulation experience and that the experience had enhanced their learning. A total of 274 open-ended forms were collected over a five-semester period of time. The forms unanimously included positive descriptors on the quality of the encounters with the standardized simulations; 122 of those forms included a comment that the students valued the opportunity to evaluate or interview standardized simulations.

The comments that occurred most often after stating the value of the experience, addressed the degree of authenticity that the students felt during the simulations. One student stated that this encounter was different from role-playing, “It made us feel closer to being real occupational therapists—not just role-playing.” Another student stated, “[the standardized simulation] was incredibly real to me. [He] made the case come to life.” Another student commented, “So real it was scary.”

The next most common theme from the students’ feedback sheets was that the standardized simulation enhanced the students’ learning. Students felt that the standardized simulation improved their communication skills and their problem-solving skills as well as deepened their understanding of the effect that a disability has on a person.

A common phenomenon in occupational therapy classes is for students to assume that they are prepared for an evaluation, interview, or specific conversation with a patient or client. One student stated that the standardized simulation “provided an experience to interact with a [Certified Occupational Therapy Assistant] without penalty.” Another student wrote, “I was able to interview [standardized simulation] and found it more difficult than I thought it would be. I learned how to give a more successful interview and to ‘go with the flow’ of the interview.” One student also wrote that the experiences were “extremely helpful in realizing communication barriers.” Another student wrote that it gave her the opportunity to practice her communication skills about uncomfortable topics, “I had to learn to feel comfortable explaining personal issues such as sexual expression and toilet hygiene.”

Other student comments focused on improving problem-solving skills. “[The standardized simulation experience] provoked a lot of problem solving and innovation.” Another wrote, “Once again shocked us when he insisted on some sort of solution right away. Kept us on our toes and once again good prep for fieldwork and the future.” Two other comments demonstrated the way the standard simulations challenged the students’ problem solving: one was “The [standardized simulation] challenged our thinking and brought the case to life,” and another student’s comment was, “Really caught us by surprise—made us realize that you cannot expect/assume anything when going in to evaluate a patient.”

The last area that the majority of the comments addressed was that of deepening the students’ understanding of what effect a disability could have on a person. One student wrote, “The simulation to the actual situation was so accurate that my empathy was overwhelming.” Another student’s comment reflected on the student’s realization that she needed to be more “value-free” in her interaction with the standardized simulation: “I had to put aside certain reservations to be able to fully appreciate
my client’s perspective and problems.” Another student wrote that the standardized simulation “showed the importance of addressing denial/depression in a meaningful way.” These comments reflected that the students had an authentic learning experience that helped them to appreciate their clients’ humanity.

Conclusions

The student comments support the belief that the problem-based learning standardized simulation interactions aid students in their ongoing development of problem solving skills. The occupational therapy curriculum is able to build specific problems and dilemmas into the problem-based learning cases to prepare students to hit the ground running when they begin their Level II fieldwork placements.

Acknowledgments

The authors would like to acknowledge the occupational therapy students who have guided Western Michigan University’s occupational therapy problem-based learning curricular process. The program has evolved from their feedback. We also wish to thank Dr. Cindee Peterson and Dr. Paula Jamison for comments on earlier drafts of this manuscript. WMU Department of Occupational Therapy tutors, in particular Professor Sandra Edwards and Dr. Paula Jamison, worked extensively to help this problem-based learning process evolve. This content was presented at the American Occupational Therapy Association’s 83rd Annual Conference in June 2003 in Washington, DC.

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