Multidisciplinary, Interdisciplinary, and Transdisciplinary *Educational Models and Nursing Education*

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ACADEMIC SETTINGS ARE CHALLENGED to educate competent practitioners to enter a rapidly changing health care arena. At the same time, they face the challenge of encouraging practitioners to learn and work together in their educational preparation. For decades, theorists have envisioned an educational environment characterized by the sharing of information, the development of common goals, collaboration in planning and implementing programs, and shared responsibility for the achievement of quality services. In the 1950s, Whitehouse advocated for educational professionals to strive toward the development of a team approach to education, and Garrett referred to the idea that human services professionals should communicate and cooperate as a team to deliver effective health care services (1,2).

Nurse educators routinely prepare nurses to enter the practice setting as members of the health care team. However, new nurses, finding themselves in environments where nursing remains less than an equal participant, have not always found the health care team a reality. Garner stated, "Clearly, teamwork is compatible and congruent with the goals of all organizations devoted to educating students, helping people, and facilitating change. And yet, is it not ironic that a concept, a value, and a way of working together, such as teamwork, can receive such universal support and still remain a goal rather than an expected and common reality" (3, p. 1).

Collaborative educational models for health professionals require a clear definition of terms to effect the success of the team model and specific teams in action. The terms *multidisciplinary, interdisciplinary* and *transdisciplinary* are often used interchangeably. This causes confusion for nurse educators interested in participating in collaborative integrated course initiatives. Each of these descriptive categories represents unique attributes and functions expected from a working team when applied to a health care organization or an educational institution.

Definition of Terms Garner's (3) definition of *multidisciplinary* teams includes the concept of a "gatekeeper" faculty member who determines which other disciplines are invited to participate in an independent, discipline-specific team that conducts separate assessment, planning, and provision of services with little coordination. This process involves independent decision-making rather than a coordination of information. Hoeman supports Garner's explanation (4). She describes each discipline as submitting findings and recommendations, setting unique discipline-specific goals, working within the discipline-specific parameters to achieve these goals independently, and attaining the discipline-specific goals, which are directly or indirectly communicated to the rest of the team (4).

Garner and Hoeman agree that the *interdisciplinary* team process expands the multidisciplinary team process through collaborative communication rather then shared communication. Establishing collaborative team goals produces a collaborative service plan. In this model, team members are involved in problem-solving beyond the confines of their discipline (5).

Interdisciplinary faculty teams require an organizational support infrastructure that promotes work interdependence, increases self-management, and increases responsibility on the part of team members for group performance and student outcomes. Crow and Pounder (6) identify an interdisciplinary instructional team's chief responsibilities as 1) the development and implementation of interdisciplinary curriculum and teaching strategies based on student needs, 2) the development and coordination of interventions and management strategies that address student learning and/or behavioral issues, and 3) the provision of coordinated communication between relevant parties in the teaching/learning setting.

Transdisciplinary teams are the result of the evolution of the team approach. The transdisciplinary team model values the knowledge and skill of team members. It is dependent on effective and frequent communication among members, and it promotes efficiency in the

In an effort to prepare health care professionals for the team-based work environment that exists in health care delivery systems today, some nursing faculty may consider collaborative, team-taught courses that integrate faculty and students from various disciplines. To assist nursing faculty in making an informed decision about integrated curriculum development and course implementation, multidisciplinary, interdisciplinary, and transdisciplinary educational teams are defined. Examples are offered that reflect these three integrated educational team models. Finally, the benefits and potential problem areas that result from team initiatives are briefly reviewed.

delivery of educational or health care services. Members of the transdisciplinary team share knowledge, skills, and responsibilities across traditional disciplinary boundaries in assessment and service planning (3). Transdisciplinary teamwork involves a certain amount of boundary blurring between disciplines and implies cross-training and flexibility in accomplishing tasks (4).

A devaluing of turf issues and a trusting relationship among team members is essential for successful group dynamics in the transdisciplinary team model. One member of the team is chosen as the primary professional leader. The other members contribute information through the leader (4). Team members must be competent and secure enough in their own disciplines to enjoy the teaching and learning that take place while giving up some roles and skills and acquiring new ones (3).

Ramifications of the Collaborative Team Approach Whatever team approach is employed, multidisciplinary, interdisciplinary, or transdisciplinary team initiatives in education have the potential to enhance the team member's work experience and the student's learning outcomes. Competition for organizational human and fiscal resources, differences in practice and educational pedagogy, discipline-specific turf issues, differences in faculty workloads, and departmental perceptions of power and control are cited as reasons why the team concept remains rhetoric instead of reality in most educational institutions. Garner noted that over the past two decades, the schools and programs that produce helping professionals have gradually begun to recognize teamwork as more than a set of platitudes that everyone accepts but no one actually lives (3).

Pounder (7) identified nine potential areas for enhanced work experiences: 1) work-related communication and problem solving with others, 2) discretion (as a team) in scheduling students and instructional time, 3) feedback about work effort, 4) sense of collective responsibility for student learning and other student outcomes, 5) interdependence and work coordination with others, 6) knowledge of other curricular areas and instructional strategies, 7) knowledge of students and contribution to their total educational experience, 8) sense of satisfaction, efficacy, professional commitment, and similar work-related outcomes, and 9) student outcomes, including affective states and learning achievement.

Some potential problem areas associated with collaborative work arrangements could affect expected student and faculty outcomes. These might include group dynamics associated with collaboration; fiscal and human resource inefficiencies within departments; and fiscal and human resource and workload inequities among departments. Pounder also cited possible areas of concern (7): professional interdependence versus professional autonomy; the dynamics involved with shared influence versus shared accountability; and the perceived balance of influence versus overcontrol or underinvolvement of work group members.

In addition, implications for the reappointment, promotion, and tenure process may be of concern to tenured and nontenured nursing faculty. For example, when traditional student evaluations are compared to student evaluations from an integrated, team-taught course, how might these differences be viewed by the promotion and tenure committee or chair of the nursing department?

Collaborative, integrated teaching initiatives have the potential to enhance or detract from a nurse educator's overall personal and professional growth. To facilitate a positive, integrated educational team experience, the pros and cons of educational team initiatives should be thoroughly explored by nursing faculty.

Three Examples The University of New England's College of Health Professions is committed to providing educational experiences that reflect an integrated, interdisciplinary (I2) health and healing (H2) education, training, research, and practice. This paradigm is known as the I2H2 initiative. Educational offerings provide collaborative experiences for all students in health care service programs enrolled in the college. Course development is client-centered, and delivery of course content involves interactive clinical and classroom experiences that explore the perspectives of several health disciplines. Departments within the college actively initiate partnerships within the university and the community that facilitate collaborative, evidenced-based research and evaluation, development and implementation of I2H2 practice models, and integrated curriculum development.

Spirituality in Health, Health Disparity in Equitable Health and Healing, and An Interdisciplinary Approach to Ethics are offerings listed under the I2H2 initiative; each course uses either the multidisciplinary, interdisciplinary, or transdisciplinary model. All are open to students in nursing, nurse anesthesia, occupational therapy, physical therapy, social work, dental hygiene, health services management, and physician assistant programs. These courses are intended to prepare health professionals to practice in integrated, team-focused health care settings. They provide for faculty the opportunity to gather evaluative data about integrated course design and implementation.

Multidisciplinary Model Spirituality in Health adheres to the multidisciplinary model and is the most cost-effective and time-efficient collaborative model. A faculty member from the School of Social Work developed the course to explore spirituality in health care. Students routinely represent social work and occupational therapy. One faculty member from social work acts as the primary instructor, or "gatekeeper," for course development and implementation. Faculty from other health care professions programs are enlisted as resources when students from other disciplines are registered in the course. This enables the primary instructor to adapt

general course concepts to the learning needs and perspectives of other participating disciplines.

Interdisciplinary Model Health Disparity in Equitable Health and Healing was created by faculty in the social work and the physician assistant programs. The interdisciplinary model was employed to direct course development and implementation. Students enrolled in the course represent dental hygiene and health services management. One faculty member from social work and the physician assistant program share the lead responsibilities for development of this course. Collaborative assessment of student learning needs that guide course implementation are accomplished through faculty review of assignments, open class review sessions, and in-class student participation. The two faculty members teach aspects of the course relative to their expertise. Weekly meetings help them plan collaboratively and share the responsibility for course and student outcomes.

Transdisciplinary Model An Interdisciplinary Approach to Ethics, which reflects the transdisciplinary paradigm, was developed by a design team led by nursing faculty. The team consisted of nursing, dental hygiene, and occupational therapy faculty. Other health care professionals in the college were encouraged to review the syllabus as it was being developed and offer suggestions. Frequent meetings provided essential time for the review of discipline-specific literature and discussion of curriculum development issues.

An implementation team consisting of members from nursing, dental hygiene, and occupational therapy was established following the course development phase. Initial implementation of the course included two nursing faculty as the lead instructors. Other participating instructors come from occupational therapy and dental hygiene. Each discipline reviews and critiques their code of ethics. The project outcome of this course is a health care professional's integrated code of ethics, created as a result of transdisciplinary teamwork among faculty and students from three disciplines. Each time the course is offered, one faculty member leaves the lead co-instructor position on the team and another member takes his or her place. This allows for continuity within the team structure and fair representation among the disciplines. Faculty on the implementation team continue to participate in the delivery of content.

A review of the literature focused on educational evaluation methodologies provides the guidelines for course content modification. I2H2 course evaluations reflect integrated course development and implementation criteria. These evaluations remain independent of the traditional university course and faculty evaluations. The data collected from I2H2 evaluations help faculty and administrators determine the most effective integrative teaching methodologies, effective use of human and fiscal resources, and the teaching paradigm most supportive of positive student outcomes and personal and professional growth for faculty.

Conclusion Nursing faculties are better equipped to participate in integrated, collaborative educational initiatives if they are comfortable with the collaborative paradigm being implemented by the educational team. This could be accomplished by starting with a clear and concise definition of terms, recognizing that multidisciplinary, interdisciplinary, and transdisciplinary collaborative models are not the same. Each model requires a designated time commitment, unique group dynamics, and relative comfort level with the process of integrated curriculum development.

The nursing department as a whole is best served if faculty explore the benefits and potential problem areas before entering into a collaborative course initiative. Tenure track faculty, specifically, may want to investigate any or all of the implications for promotion and tenure within their educational organization.

Nurse educators can enhance their personal and professional teaching experiences by participating on integrated, collaborative educational teams. Integrated, team-taught courses can increase student awareness and respect for other professionals through the sharing of learning experiences. Is collaborative integrated course development and implementation a viable option for you, as a nurse educator? Only an understanding of integrated collaborative teaching models and a thorough assessment and evaluation of the benefits and potential problem areas within your organization can provide sufficient information to arrive at an informed decision.[NIN]

Key Words Collaborative Teaching Models – Multidisciplinary – Interdisciplinary – Transdisciplinary – Integrated Team

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