

FEATURE ARTICLE
Innovations in Education

Strengthening the Nursing Curriculum

An Interdisciplinary Course Addressing Agricultural Health and Safety

by Susan Jones, PhD, RN, David Dunn, Dr.Sc. in Hyg., MPH, and David Coffey, EdD

The practice of occupational health nurses occurs in a variety of workplace settings. During the past decade, the practice of occupational health nurses has extended into rural communities and a new role of agricultural health nurses has emerged. With the emergence of this new role comes a need for new content to be incorporated into nursing curricula.

Agricultural work is dangerous. Individuals engaged in farming are at increased risk for the development of specific health problems including respiratory disorders (Merchant, 1995; Schenker, 1998), pesticide exposure (Arcury, 2003), ergonomic disorders (Villarejo, 1999), hearing loss (Knobloch, 1998), increased incidence of injuries (DeRoo, 2000; Reed, 2000), and stress related conditions (Rossman, 2000). In recent years, this public health challenge has claimed the attention of health professionals, but unfortunately, most prevention strategies have been planned and implemented with little or no collaboration among health care, agriculture, and public health professionals, and usually without input from the members of the targeted population working in agriculture.

This article shares one unique interdisciplinary approach to prepare university graduates to address agricultural health and safety issues. This interdisciplinary team approach demonstrates how health care professionals, in this instance nurses, can collaborate with agriculture and public health professionals in addressing this public health challenge.

ABOUT THE AUTHORS

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TEACHING METHODS

Three faculty members from the agriculture, nursing, and public health departments at Western Kentucky University recognized the need to prepare students to become sensitive to the health and safety needs of rural residents, particularly those involved in occupations associated with agriculture. It also was recognized that although professionals from these disciplines address agriculture related health and safety problems, graduates from the programs had no transdisciplinary experience. These faculty members, working with the director of the South Central Area Health Education Center, developed and gained approval for a three credit course titled Rural Health and Safety (see Sidebar). This course is open to both undergraduate and graduate students, and the three faculty members work together in planning and conducting the course each summer. Faculty members emphasize involving individuals in team efforts through critical thinking activities as well as a variety of teaching methods and techniques. The following five techniques are used in teaching the course:

Interdisciplinary Rural Health and Safety Course

Course Description

Students will explore a variety of health and safety issues unique to rural populations. The interdisciplinary team concept will be used throughout the course to foster collaboration that facilitates sharing of the expertise of students and faculty.

Course Objectives

- Learn to function in an interdisciplinary team to conduct a community project related to rural health and safety issues.
- Explore various dimensions of rurality including, but not limited to, demographics, cultural, and socioeconomic factors.
- Demonstrate the use of appropriate strategies in addressing health and safety issues unique to rural populations.
- Investigate barriers affecting rural health care.
- Differentiate the meaning of "rural life" among various population groups.
- Investigate contemporary issues related to the health care delivery system.

- Drawings of perceptions of rural and urban areas and issues.
- Ropes Course.
- Four corners.
- Good Country People.
- Field trips.

Drawings of Perceptions of Rural and Urban Areas and Issues

On the first day of class, students are randomly assigned to groups of three to five individuals. Some groups are asked to draw their perceptions of rural life, while other groups are asked to draw their perceptions of urban life. Discussion of each drawing follows the posting of all drawings on the walls of the classroom.

Ropes Course

The first Saturday of the course is devoted to all students and faculty participating in a Ropes course. This program, originally developed for military training, is an important and effective team building exercise that positively impacts the rest of the course.

Four Corners

A "human graph" is used to discuss demographic characteristics of different segments of the population. After designating the corners of the classroom as rural nonfarm, rural farm, suburban, and inner city, students individually decide on the segment of the population that most fits a given demographic characteristic and then move to that corner. For example, for the characteristic of

which group has the highest percentage attending church, the answer is rural farmers followed by inner city residents. This technique provides students the opportunity to express their perceptions and discuss choices with other students, and allows the instructor the opportunity to correct misconceptions.

Good Country People

"Good Country People," a short story by Flannery O'Connor (1971), is used to challenge students on their values and stereotypes of rural people and communities. The written assignment includes clarifying the characters in the story while clarifying individual values. Students are expected to write a paper that describes the characters in the story, clarifies students' individual values, summarizes the story, and elaborates on the relationship among the characters and community to students' experience of growing up and their present workplace. A rubric is used to evaluate the written assignment. Discussion of papers relates primarily to students' concepts of rurality, rural values, and changing population dynamics.

Field Trips

Field trips are planned every Saturday during the course and allow students to experience the culture of diverse rural communities including specific populations residing in these communities. Students, as an interdisciplinary team, complete a community assessment, analyze the assessment data to determine the priority health needs of the community, and design an educational poster addressing each priority need. This exercise provides students the opportunity to interact with residents and community leaders, while gaining insight into each discipline's contribution in solving the complex health needs of rural populations.

One experience involves the planned field trip each year to an Old Order Mennonite community located approximately 30 miles from campus. To complete this project, students are required to explore the agricultural practices along with the health beliefs and values of the targeted population.

Later, the students work together to design an educational poster addressing each priority health need identified from the assessment data. For example, students in one of the courses designed a poster that outlined basic facts about the need for immunization against tetanus; this poster was then given to a community leader to place in a common community site such as the general store. Evaluative data indicate the most important lesson learned by students from all disciplines is the fact that health care programs and advice must be planned within the context of the culture of the clients being served.

EVALUATION

The interdisciplinary course in rural health and safety was first offered in 1999 and has since been offered during each summer term. A total of 117 students have completed the course. Data presented here are drawn from the three classes offered in the summer terms of 2001, 2002, and 2003. Total enrollment in these three classes was 81 students (26 agriculture students, 50 nurs-

ing students, and 5 public health students). Fifty-four students were women and 27 were men. Students' ages ranged from 20 to older than 50. Forty-nine students were enrolled for undergraduate credit and the remaining 32 students were enrolled for graduate credit. At the end of the course, all students were asked to complete an evaluation instrument asking their opinions about various aspects of the course, the out of class activities, the presenters, and various class assignments. In addition, students were asked to indicate what they had expected to learn at the beginning of the class as well as what they thought were the best and worst parts of the class.

Overall, the evaluation results from both students and faculty were positive. A summary of the evaluation data revealed 97% to 100% of students either agreed or strongly agreed with the items related to course objectives, course content, teaching strategies, interest, value of the course, value of increasing team building skills, and working with students from other disciplines. Responses related to out of class activities revealed 91% to 99% of students agreed or strongly agreed the out of class experiences enhanced their learning. Class assignments were viewed as contributing to the achievement of course objectives, with 85% to 96% of students agreeing or strongly agreeing. The group project was viewed as a positive experience, with 86% agreeing or strongly agreeing that a group leader emerged, 84% agreeing or strongly agreeing that all group members participated, and 94% agreeing or strongly agreeing that outcomes represented an interdisciplinary approach.

When asked to complete the statement, "The best part of the class was..." most students made comments about teamwork and field trips. The following is representative of students' comments:

[The best part of the class was] the field trips and experience with different cultures of people and their outlook on their community. The trips caused me to look at my own lifestyle, what is important to the communities we visited, and what I found to be of most importance to me.

From the instructors' point of view, this experience was challenging but rewarding. Stepping out of the traditional classroom environment to team teach a course with students from many disciplines was new and challenging for the instructors. The ability of the instructors to resist the "control" and "my discipline is most important" mentality while working together to design and present the best course possible was the key to success. The success of the course as expressed in student evaluations was professionally and personally rewarding.

CONCLUSION

The faculty and students viewed this unique educational model as a creative strategy to address agricultural health and safety curricula issues. First, with teamwork as the primary focus of the class, the model provided students the opportunity to view agricultural health and safety issues within the context of rurality. As agriculture,

IN SUMMARY

Strengthening the Nursing Curriculum

An Interdisciplinary Course Addressing Agricultural Health and Safety

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- 1 Agricultural work is a dangerous occupation and incorporating content on agricultural health and safety issues into the nursing curriculum presents a challenge.
- 2 The traditional strategy for dealing with these issues has been a single discipline approach.
- 3 An interdisciplinary course bringing together faculty and students from the disciplines of agriculture, nursing, and public health proved successful in addressing this content in the curricula of the disciplines involved.
- 4 When teaching agricultural health and safety content, it is essential to emphasize an interdisciplinary approach and frame the course in the context of rurality.

nursing, and public health students collaborated to explore the cultural values, customs, and health beliefs of the targeted population, new insights emerged. Students were challenged to move out of their comfort zone as group members shared knowledge, ideas, past experiences, and resources to solve complex health and safety issues. An important part of this learning experience was the emphasis placed on understanding and gaining direct input from the targeted population of farmers, farm families, and farm workers, thus allowing students to experience various occupational health and safety issues not traditionally presented in the classroom.

The occupation of agriculture is embedded in rural communities. The course allowed students to view these rural communities and the contribution of agriculture to these communities through a different lens. The rural communities were reflected in a more positive image and as a more favorable future site to live and work. The faculty believe the students, who will potentially become the future leaders in these rural communities, have learned to partner with other potential rural community leaders to maximize their collaborative efforts in achieving the common goal of improving the health and safety of all rural residents, especially those engaged in the occupation of farming.

This course embraces several important objectives of contemporary education. First, students are engaged with peers and the broader community in addressing important, real life health and safety issues. Second, the interdisciplinary experiences serve to extricate students from the narrow, discipline specific focus often found in tradi-

tional majors and thus better prepare them for their respective careers. Finally, students become more culturally sensitive, resulting in an increased awareness of diversity in community based practice settings.

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