



An American Teaching at NTU

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When I stepped onto Taiwan soil a year ago to teach occupational health at National Taiwan University, it was my first direct contact with Asia. I was well aware I would have some problems. I was most worried about the indefinable cultural differences that I might encounter that would affect classroom communication in unimaginable ways. Differences in learning styles, diverse expectations of technical content, and most obviously, my inability to speak Mandarin could all impact a student's ability to learn and thwart my effectiveness. Yet, over the course of the year, none of these initial worries were as important as the necessity for my mind to open to the realities of occupational health in an international setting. Ultimately these realities changed my teaching.

At the beginning, I knew I had great practical experience and understood well the facts relevant to my field. According to the International Labour Organization over two million people worldwide die each year from workplace accidents or diseases, about the same number who die from AIDS. Workers are frequently the first and most highly exposed to new toxins, and often diseases are revealed in the worker population long before they appear in the general population. An occupational

health professional like myself is trained to recognize, evaluate, and control the work conditions that otherwise would lead to such deaths.

Of course, I had only used my training within the United States, but workplace conditions in the U.S. can be hazardous, and I worked at a government agency that allowed me to see some of the worst. I had been called out on an emergency response after Hurricane Katrina, a huge storm which killed many and devastated the city of New Orleans. Bodies were still being pulled from homes as our team tried to assess how we could help. I had visited the world's largest steel mill where we had to wear fireproof clothing so that stray sparks would not ignite us. Perhaps most troubling were visits to small businesses where workers were exposed to toxins because hazards were not understood or because there was not enough money available to control the hazards properly.

However, it was the ten days I spent in Bangladesh, a trip taken with other NTU faculty and students, that really jolted me to consider the broader aspects of occupational diseases, most importantly their effects on children and families. Instead of being in schools preparing for their futures, many children were

on the streets earning their living by repairing shoes, selling vegetables, or begging.

I am not the only one who has failed to recognize the broad impact of occupational hazards; they are regularly ignored. For instance, a recent, western, newspaper article described a poor woman in Asia whose struggling family was being impacted by a sharp increase in the price of rice in her developing nation. The article expounded on the reasons for the elevated prices and the possible solutions that were being contemplated. But, where was the patriarch of this family? The article mentioned, in passing, that while plying his trade as a rickshaw driver, he had been killed - an occupational accident! Surely the root cause of this family's plight was due more to the loss of its traditional breadwinner than to the price of rice.

As the focus of my own interest shifted to this expanded view of occupational health, I slowly began to realize that this might be an unusual and important outlook that should be shared with students. I had prepared to teach a technical course, covering the methods for measuring the levels of known toxins and recommending changes to the work processes, but perhaps I should not dwell on technical issues. Although they are critical for a professional, other NTU professors had established occupational health courses with technical content. I realized that I should take a different path.

I began to develop a general course, one that might allow students to discover and begin their own personal exploration of this fascinating field. It would include some of the many problems that plague the field of occupational health in this era of globalization, using the scientific literature to present these aspects of occupational health that are found in developing countries. These problems might include ethical, unusual, or emerging issues such as the potential responsibility of employers towards the HIV status of their employees or the effects of lack of financial resources to perform the monitoring necessary



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for determining worker exposures. More recently, corporations may need to evaluate how to prepare their workforce for pandemic flu or emergency responses.

After deciding a course of action, I was free to consider how best to teach it. For me, the answer was easy; I enjoy engaging students in discussions. Not only would open classroom discussions be a way that students could help each other, but I could use the dialog to evaluate the students' and my own progress in surmounting language and cultural differences. Discussions may also be a more western approach to learning that might be of interest or benefit to the students.

No textbooks exist which present such an approach specifically for occupational health, but many western educational texts advocate this approach to learning. One of the more famous is *McKeachie's Teaching Tips*. Here, theory is presented that suggests that lectures are able to cover more material but that most of the material does not reach the audience's notes or memories. While many students may be more comfortable listening to lectures, studies support that they may pay more attention and actively think when they are involved in discussions.

I divided my class into five-person teams to work on various problems. The first was an ethical problem. It involved a hypo-



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thetical mid-level manager who was not able to make his supervisor report a toxic exposure to upper level management. It was not clear whether the supervisor did not understand the importance of the health risk to his employees or whether he was deliberately trying to obstruct the mid-level manager for other reasons. The teams discussed what he should do, but there was no clear answer. This ambiguity appeared to disturb some of the students; they expected firm solutions. However, similar situations are common for practicing occupational health specialists - often their responsibilities are split between their employer and the workers. It is good for them to have thought about this problem and how they would and will respond to it early in their careers.

Other questions that the class explored were more factual in nature, requiring the students to explore the various sources of information very necessary for a professional. Probably the best of these are based on case studies unique to developing countries. Such studies are not easy to find, and currently, I am searching the literature to identify as many as I can.


My approach to this occupational health course developed while I was teaching the class, which is not ideal,

of course. In my own defense, I believe that I needed to have international and cross-cultural experiences before I could begin to think about occupational health in a holistic way. However, I felt the stress of being only one step ahead of the students.

Surprisingly, student evaluations of the class were high, although there were some specific criticisms. Seventeen students completed a 3-point scale questionnaire, which I prepared to assess the types of materials we used. All students reported that they

enjoyed the problem-solving approach. The most popular assignment that I gave required an oral presentation (88% gave the highest point level), and the least popular assignment was a debate between two teams (47% gave the highest point level).

An unexpected outcome of my experiences was that I realized I was not yet ready to leave Taiwan. I want the opportunity to more fully refine the course and to write a book supporting the use of problem-solving and discussion methods in occupational health. I hope that such a book will be useful not only in a university but also in training occupational health professionals outside the traditional classroom.

Finally, I wish to thank those wonderful, bright, and curious students who took me under their wings and shared part of their lives. I, like many other teachers, am sure that I learned more from them than they did from me. I know that they will use their great talents to improve the health of the world.  (本文策畫／公衛學系季瑋珠教授)

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