



## Emphasizing Sustainable Health and Wellness in a Health Education Curriculum

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### ABSTRACT

*Environmental sustainability is the most visible recent global movement addressing the effect of human activities on the environment. Because of its effect on human health and well-being, it is imperative that the health education discipline begin to consider this topic as one of the important content areas. This paper provides a model for the integration of environmental sustainability concept into a traditional health education course that equips students with the basic competencies of planning, implementing, and coordinating health education programs. The main purpose is to describe how to reach a maximum number of people and educate them regarding this important issue by using service-learning and advocating for sustainable health and wellness through a health education course.*

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Edwards<sup>1</sup> believes that the concept of sustainability was first expressed in the United States through the New England transcendentalist movement of the 1800s. The environmental sustainability movement has become an emerging global phenomenon since the dawn of the 21<sup>st</sup> Century. It slowly spread to other Western countries as they realized the limits of natural resources, and now it is quickly moving to developing countries. The idea of sustainability provides a vital new approach to confronting the problem of natural disasters that we may face in the future. The traditional approach (restrictions for businesses) to natural conservation came into conflict with the role of businesses. This approach led to a narrow perspective resulting in no significant success in meeting the overall goals of environmental sustainability. According to

Edwards,<sup>1</sup> the new approach embraces the purposes and goals of all important facets of society which have come to realize that the health of the earth can determine the health of human beings. Thus, the earth's balanced ecosystem is vital to our overall wellbeing.

It is clear that the sustainability revolution is international in scope. All sectors of society are now being mobilized<sup>1</sup> including the social service groups, nongovernmental organizations, foundations, loosely organized community groups; and now, albeit slowly, government, industry, the private sector, education, and the arts. These groups are being represented by all nationalities, religions, and cultural affiliations. A series of historical events on contemporary environmentalism show that, without question, the world is coming together for this cause. They include: (1) the first United Nations

Conference on the Human Environment in Stockholm, Sweden in 1972;<sup>2</sup> (2) a number of activities such as the UN's creation of the World Commission on Environment and Development (WCED) in 1983; (3) the World Commission on Economic Development; (4) "The Brundtland Report" in 1987;<sup>3</sup> (5) Rio's Earth Summit in 1992; (6) the World Summit on Sustainable Development conference in 2002, and recently; (7) the 4<sup>th</sup> International Conference on Environmental Education, in Ahmedabad, India, in 2007.<sup>4</sup>

About 30,000 sustainability groups in the United States, and thousands of groups

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worldwide, are involved in a variety of activities.<sup>5</sup> Results of most Gallup Polls on environmental issues consistently show an increasing number of Americans who view the environmental movement positively. According to a 2006 poll, Americans by-and-large not only support the environmental movement in general, but actually take action in support of their beliefs.<sup>6</sup> However, Americans, with just 4.5% of the world's population, consume 33% of its materials. The "ecological footprint" of the average American consumer is 30 acres; whereas, the average Italian can live on less than 15 acres.<sup>7</sup> Such an imbalanced use of resource has become a subject of debate. The business practices of industrialized countries, which is based on a linear approach of increasing resource consumption, overwhelming waste, and inequitable distribution of goods and services have a tremendous effect on the health of the ecosystem and people in general.<sup>1</sup>

### ENVIRONMENTAL HEALTH PROBLEMS

Effects of environmental degradation and climate change have been felt by most people in some way. Regardless of where they live and who they are, the awareness of the interconnectedness among social justice, economic equity, global warming, pollution, health, and poverty has been realized more vividly than ever.

The evidence of relationship between the quality of the environment and health is overwhelming. About 23% to 33% of the global burden of disease (years of life lost to ill health) is linked to environmental sources.<sup>8</sup> Using air quality standards established by the World Health Organization (WHO), it is estimated that 1.3 billion of the world's urban inhabitants breathe air that does not meet these quality standards. Environmental factors are thought to contribute to many forms of cancer including cervical, prostate, and breast cancers. In the United States, during the late 1900s, approximately 1.2 billion pounds of potentially neurotoxic chemicals were released into the air and waterways from industries and farmlands. The prevalence and mortality of

asthma in the United States have increased since 1980 by 58% and 78%, respectively. Elevated blood levels of lead continue to be an important problem in the United States with nearly 1 million children exceeding the threshold for acceptable blood lead levels.<sup>8,9</sup> *Healthy People 2010* goals and objectives address a number of environment-related issues such as health problems related to air quality, use of pesticides and herbicides, water quality, toxic chemicals and waste, as well as the infrastructure and surveillance of healthy homes and communities.<sup>10</sup> The recent wave of environmental concern has drawn attention to population growth, industrialization, and urbanization. Programs that are in progress include improved energy sources, organic and local production, and proper land use.<sup>11</sup>

### SUSTAINING HEALTH AND WELLNESS

According to the *National Center for Health Statistics*, the United States spends over 16% of national GDP on health care.<sup>12</sup> Regardless; people seem to be getting fewer gains in terms of overall health status. Along with environmental threats such as climate change, contaminated foods and water, and hazardous chemicals that are found in all daily use products, the indulgent lifestyle also threatens people's health and wellness. Mainstream medicine is constantly on a quest for "magic bullets;" quick fixes for solving problems with drugs and synthetic products. With the pressure of corporate health care system, doctors are forced to see more patients per day with an average of only seven minutes per patient.<sup>13</sup> Problems like these have reached the level of a national crisis. Americans are not healthier; still they are all paying more for health care. This crisis has led to a grassroots demand for more proactive, sustainable alternatives for staying healthy. According to the former Surgeon General C. Everett Koop, preventive medicine means education, empowerment, and personal responsibility.<sup>14</sup> The main challenge is how to keep patients out of the hospital in the first place. To do so, there has to be a focus on a comprehensive system that includes environmental sustainability at the personal

level and a quest for behavioral change that helps protect and sustain the environment; thereby, promoting one's own health and wellness. The idea of sustainable health and wellness should extend beyond traditional measures to include environmental sustainability, consumption of natural foods, and the integration of non-invasive and long-lasting complementary and alternative medicine (CAM).<sup>14</sup>

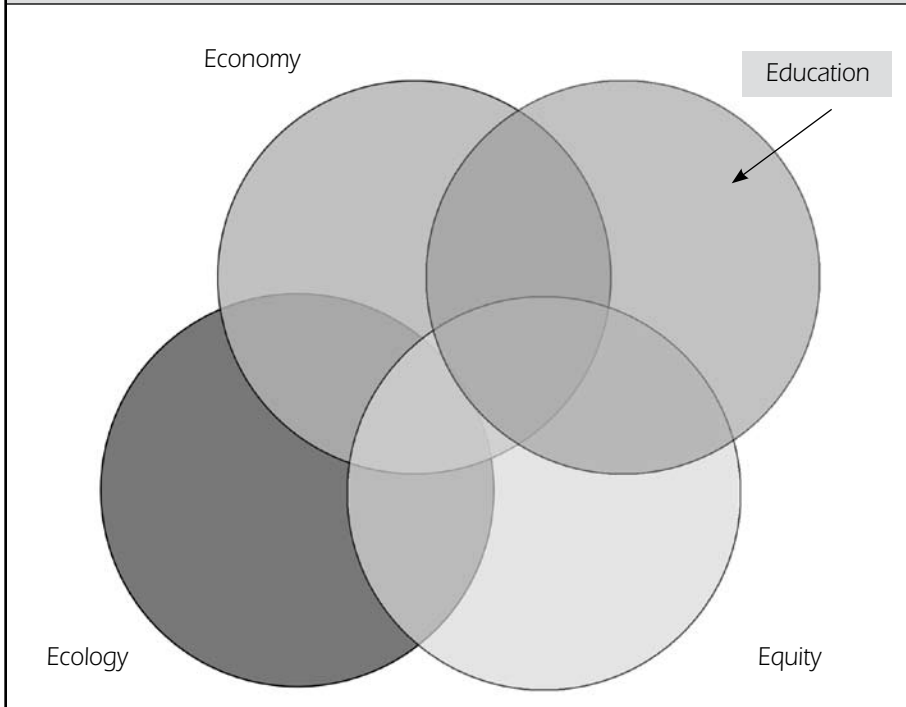
This paper describes an attempt at integrating the concept of sustainability into a health education course, advocating for sustainable health and wellness, and using a service-learning approach in order to educate a larger audience over a short period of time.

### ROLE OF EDUCATION

The sustainability revolution has led to the conception of a model around the Three Es: (1) Ecology/environment; (2) Economy/employment; and (3) Equity/equality. It is believed that we are now in a position to add a Fourth E: Education. A conceptual model of four components of sustainability suggested by Edwards is displayed in Figure 1.<sup>1</sup> To achieve global sustainability, there is a need for formal sustainability education at all levels, from pre-K through post-secondary learning. The United Nations has declared 2005-2014 as the Decade of Education for Sustainable Development, with the United Nations Educational, Scientific, and Cultural Organization (UNESCO) designated as the lead agency for the promotion of the decade.<sup>15</sup> Education for sustainable development involves incorporating key themes of sustainability—poverty alleviation, human rights, health and environmental protection—into all education systems.

The economic, social, health, and environmental impacts of higher education in the U.S. are enormous; therefore, students, faculty, and administrators at many institutions are embracing the principles of sustainability.<sup>16,17</sup> Colleges and universities are endlessly working on sustainability initiatives. Several higher education institutions have participated and signed the Talloires

**Figure 1. A Conceptual Environmental Sustainability Model Suggested by Edwards (2005)**



Declaration, an internationally recognized pledge of commitment developed by University Leaders for a Sustainable Future. Talloires Declaration was composed in 1990 at an international conference in Talloires, France, a first official statement made by university administrators of a commitment to environmental sustainability in higher education. The Talloires Declaration is a ten-point action plan for incorporating sustainability and environmental literacy in teaching, research, operations and outreach at colleges and universities. It has been signed by over 350 university presidents and chancellors in over 40 countries worldwide.<sup>18</sup>

### INTEGRATION OF SUSTAINABILITY IN THE HEALTH EDUCATION DISCIPLINE

Environmental sustainability should be an important component of the health education curriculum because there are a myriad of health problems that are connected to environmental issues. About 19% of health problems are connected to environmental factors and 53% to lifestyle

factors.<sup>20</sup> There is a substantial overlap between these two factors that may encompass a larger overall proportion of the determining factors for mortality and morbidity. For example, a significant proportion of people consume foods that are pre-packaged and transported long distances instead of buying local raw products. By choosing such behavior, not only are we using unnecessary fuel, but we are also consuming foods that are less nutritious. Not to mention that the packaging for food adds to the accumulation of solid waste enormously; thus, impacting the environment in many other ways. There is no doubt that we can make a positive connection between sustainability and human health and advocate for the promotion of sustainable health and wellness by practicing an environmentally responsible lifestyle.

Natural medicine, the use of natural products and non-invasive treatments, and staying close to nature represent a classic consumer movement and a current social phenomenon of significant dimensions in preventing diseases and promoting health and wellness. About 80% of the world's population, and

more than 40% to 70% of the population of the United States and Canada, integrate various types of health care modalities, termed as Complementary and Alternative Medicine (CAM), making the health care strategy more holistic and natural.<sup>14, 21-24</sup> As Micozzi explains, students, educators, practitioners, patients, and general consumers need a common language for understanding this movement and advocating for it.<sup>14</sup>

Whereas integrating sustainability in a given health course focuses on content; the method of teaching this topic using a service-learning project is a pedagogical endeavor that can be useful, not only to the students who are taking the course, but also to the community in which they live. According to Furco, service-learning programs are distinguished from the other approaches to experiential education by their intention to equally benefit the provider and the recipient of the service.<sup>25</sup> Such programs ensure that the service being provided and the learning that is occurring receive equal attention. Advocates of service-learning believe that experiential education is the foundation for intellectual, moral, and civic growth. Using service-learning methods, we can reach larger number of the people than if we only use the traditional way of teaching students in the classroom. Through service-learning methods, students can gain competencies in a wide range of skills such as: planning, implementing, evaluating, advocating, collaborating, and communicating health information.<sup>26</sup>

### INTEGRATING SUSTAINABILITY IN A HEALTH EDUCATION COURSE: AN EXAMPLE

As a part of a campus sustainability initiative, in February 2006, the President of Ithaca College signed the Talloires Declaration.<sup>19</sup> With the President's support and an external grant, the college has initiated a program on integration of sustainability across the curriculum. The main purpose of integrating the sustainability topic into a health course is to educate a wide range of college students about sustaining environment and eventually help them sustain



health and wellness. A sophomore-level course titled, *Wellness: Multicultural Perspectives on Health and Healing* has been taught for over seven years in the Department of Health Promotion and Physical Education in an effort to improve “health and wellness” among students. The main objective of this course is to increase students’ knowledge and skills to promote health and wellness by introducing CAM modalities that are practiced globally and emphasizing prevention. Students who take this course are exposed, often for the first time, to several kinds of healing modalities and herbal treatments employed for thousands of years around the globe. Local CAM practitioners including Chinese medicine, Ayurveda, chiropractic, and naturopathy provide their clinical perspectives that emphasize the ability of self-healing with natural products and non-invasive treatments. These health care modalities advocate the idea of knowing one’s own body and improving health and wellness with proper nutrition and natural healing. To integrate the concept of sustainability into this course some of the course objectives were modified.

The revised objectives of this class were to:

1. Increase students’ knowledge about the relationship between environmental sustainability and sustainable health and wellness through various activities (direct data collection, secondary sources, observation, and online sources).
2. Help students absorb information on healthy eating and a number of CAM practices using reflective dialogues, with self and others, e.g. writing response papers and online discussion.
3. Increase students’ ability to educate others about sustainable health and wellness.
4. Help students reach a maximum number of people from the campus and community, and educate them about sustainable health and wellness during a “Sustainable Health and Wellness (SHW) Fair.”

### TEACHING MODEL

The original course, “*Wellness: Multicultural Perspectives on Health and Heal-*

*ing*,” was modified by adding the topic on sustainability and its relation to health and wellness. Students were allowed to get involved in more hands-on activities, reflections, and discussions.<sup>27</sup> In addition to CAM practitioners’ presentations, there were additional materials presented on sustainability by professionals who were either teaching or practicing sustainability activities. The teaching and learning activities that were incorporated into this class were designed to fit into Fink’s critical learning model.<sup>28</sup> This model included a variety of activities that ranged from getting information through lectures to experiencing, observing, participating (doing), reflective thinking, self expressing (writing a journal), and sharing with others. It is termed as holistic active learning (Figure 2).

Six major activities were added to the course to address sustainability:

- To assess situational factors (students’ academic and personal background) based on Fink’s model,<sup>28</sup> a quick pre-test on the content of the course and sustainability and a wellness inventory were administered on the first day of class. Some new questions were added in pre-test to include environmental sustainability topics.
- Faculty members from the Biology department, where the Sustainability Program was initiated, were invited to present a summary on the condition of our planet Earth. The presentation, “*The quest for a sustainable world - and how that involves you*,” was based on current literature on sustainability and from the National Climate Center.<sup>29</sup>
- The “Scavenger Hunt” is one of several class assignments that students are originally asked to complete. New components were added to the “Scavenger Hunt” to help students think critically about their own eating behaviors that were related to environmental sustainability. One of these activities is called “Trace the Roots of Lunch,” suggested by William, Dunbar, Kimmel, Gruyere, Newman, and Mizia.<sup>30</sup> Students were asked to list all of the ingredients in their favorite lunch plate, sandwich, or salad, and to track the geographical source of each item and the distance traveled

to their table. They estimated fuel spent using current prices, and then identified two local sources including homemade ingredients. Transportation costs were calculated and compared the final cost to consumers. The goal of this exercise was to give students the opportunity to consider the social and environmental costs versus cultural and health benefits of each approach and to discuss the concepts of true-cost accounting and trade-offs. Students were also asked to practice an alternative lifestyle, such as a vegetarian diet, meditation, music therapy, yoga, and prayer for three-to-four days that could promote and sustain their wellness.

- A DVD titled, “Architecture to Zucchini,”<sup>31</sup> was reviewed with a follow-up discussion on how the content of this video relates to one’s own health and wellness. The DVD included a collection of documentary clips on people, business owners, farmers, and architects, who were interviewed about their innovative activities geared toward environmental sustainability. After the viewing, students were asked to respond and create their own ideas; the ways that they could implement environmentally conscious behaviors. Again, students were encouraged to think critically about the importance of environmental sustainability and how it affects individual’s health and wellness.

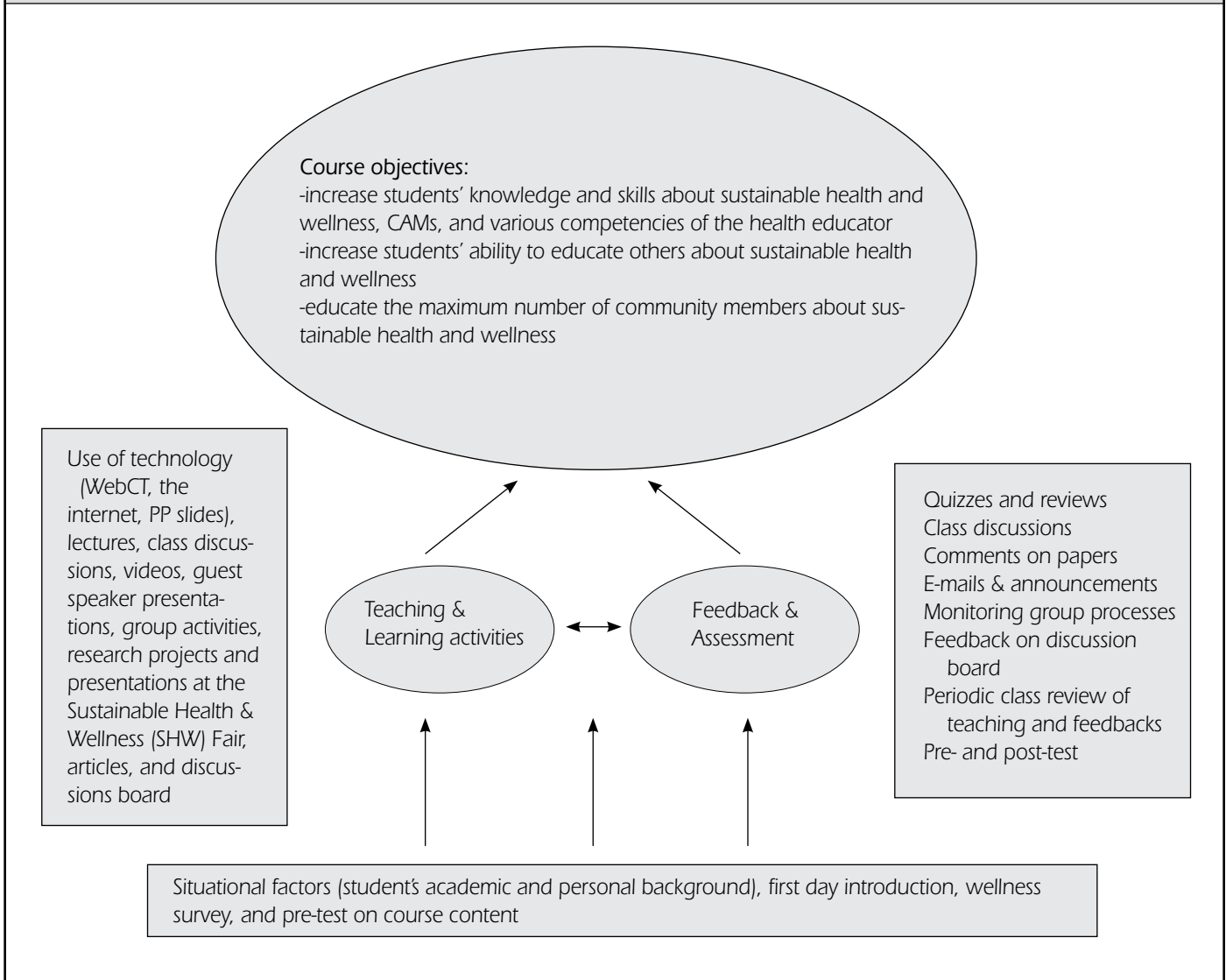
- Guest speakers, such as a professional herbalist, naturopath, nutritionist, etc., were invited to speak about the importance of herbal and nutritional therapies in addition to CAMs.

- A Sustainable Health and Wellness (SHW) fair was organized and implemented during finals week. The class was responsible for organizing a SHW fair to help others (the college and local community members) understand the value of sustainability and steps they could take to work on sustaining health and wellness. A summary of all of the activities used in Fink’s model is presented in Table 1.

### SUSTAINABLE HEALTH AND WELLNESS (SHW) FAIR PLANNING

Two faculty members, who taught *Human Nutrition* classes, were invited to join

**Figure 2. Integration of Fink's Model of Critical Learning into Wellness: Multicultural Perspectives on Health and Healing**



the SHW fair with the *Wellness* class and contribute their expertise in the area of healthy nutrition. As a result, three sections of *Human Nutrition* classes were combined to participate for the event, the Sustainable Health and Wellness (SHW) Fair. This type of collaborative effort was planned and organized as a community event rather than an individual class activity.

Students were notified about the fair, and the overall goals and objectives of the course on the first day of the class. A Planning Committee was established that included three faculty members, two graduate stu-

dents (Teaching Assistants), and student representatives from each section – a total of 13 to 15 members. This planning committee was formed using voluntary sign-up sheets within the first and second week of the semester. Students were informed that they would receive a recognition certificate for volunteering for this extra activity.

The planning committee divided further into three subcommittees: (1) Promotional Committee; (2) Fundraising Committee; and (3) Logistics Committee, and were coordinated by two graduate students (TAs). The Promotional Committee used the Intercom

(the campus-wide electronic news media), posters, e-mails to faculty members, and the local newspapers to promote the fair. The Logistics Committee prepared a list of equipment required for the fair and secured venues. They collected tables for booths, poster boards, hands-on game materials, sample foods, herbs, videos, handouts, yoga demonstration pads, certificates for the student committee members, and other related materials. The Fundraising Committee collected a number of items for the raffle drawings for the attendees as an incentive to attend the SHW fair.



**Table 1. Learning Activities for Holistic, Active Learning in Wellness: Multicultural Perspectives on Health & Healing Course Based on the Fink Model (2003)**

Getting Information & Ideas		Experience		Reflective Dialogue	
		Doing	Observing	With Self	With Others
Direct	Primary data: -Assignments -Pre- and post-test on the content  Primary sources: -Personal measurements taken for nutritious food at college dining halls or health food stores	-Scavenger Hunt, (trying an alternative health lifestyle, visiting health stores, and dining halls, etc.  -Collecting information from the experience: see details in the syllabus -Presenting research and demonstrating activities	-Videotapes on multicultural modalities  -Speaker demonstrations  -Information from videotapes	-Write journal entries on Scavenger Hunt and prepare report with self-reflections  -Guest speaker reaction papers	Share experience with the class  -assessed by the instructor -returned to students  Reflection on periodic class assessment  Sustainable Health & Wellness (SHW) Fair  -presented at the end of the semester
Indirect, vicarious	Secondary data & sources:  -Lecture -Textbooks	Case study results on other health care modalities Reading textbooks articles, and other handouts	-Guest speakers  -PP slides, Web media materials		
Online	Course Website:  Internet:	Use of WebCT, courseware for class materials and lecture notes, use of websites, discussion board, and other online information  Web pages on multicultural modalities for research and presentation of the final paper		Extensive Discussion Board reflections and feedbacks -used in grading	

### SHW FAIR IMPLEMENTATION

The SHW fair was conducted by only student presenters. A total of 140 students prepared educational booths. The topics were selected, and students started their research about a month before the day of presentation (Table 2). Before students presented their topics to the audience, they were instructed to consult a wide variety of literature and peer-reviewed research studies on CAM, including the materials found at the National Center for Complementary and Alternative Medicine (NCCAM) and on nutrition journals. This way, students

were able to base their presentation on reliable sources. The NCCAM, a federal health office, has recognized the importance of many modalities that are practiced around the globe. Its mission is to discuss and test the effectiveness and legitimacy of various modalities so that citizens can make informed decisions.<sup>22</sup>

The SHW fair took place in the last week of the semester at the college's gymnasium. The planning committee members were at the site early to organize the booths, handouts, display materials, etc. The graduate students (TAs) assisted student presenters in

setting up their booths and teaching areas. Over the course of two hours, about 200 individuals, including presenters, faculty, administrators, staffs, students from other classes, and community members attended the fair. A local newspaper journalist interviewed students and faculty members after the fair.

### ASSESSMENT OF STUDENT LEARNING

A variety of outcome assessment plans were created to evaluate the process of this pilot curriculum. It included reflection paper, post test, quizzes, midterm and final

**Table 2. Sustainable Health and Wellness (SHW) Fair Topics for Educational Booths**

1. Gluten-free diet	18. Ayurveda
2. Blood type diet	19. Reflexology
3. Portion sizes	20. Acupuncture
4. Body fat analysis	21. Yoga
5. Signs and symptoms of an eating disorder	22. Massage therapy
6. Eating at college	23. Aromatherapy
7. The freshman 15	24. Homeopathy
8. Local foods	25. Native American Healing
9. Power bars and sports drinks	26. Herbal Therapy
10. High protein diets	27. Meditation and breathing
11. High sugar foods	28. Pet therapy
12. Eating healthy at the mall	29. Music therapy
13. Body image	30. Essential oils
14. Ergogenic aids	
15. Vegetarian diet	
16. The food guide pyramid	
17. Humor therapy	



exams, an electronic version of discussion board entries, and the SHW fair evaluation. While exams and quizzes were designed to test students' mastery of knowledge on the content of the course, the written statements from the students allowed faculty to evaluate whether students were satisfied with the courses' learning experiences. Students were asked to reflect on assignments, SHW fair experience, and the overall class. In addition, students were asked to write reaction papers on some of the guest speakers. Reflection on what is learned, how it was learned, and why it was learned, is a useful and interactive process for the students and the instructors. As early as 1933, Dewey expressed that the reflection enables learners to "act in a deliberate and intentional fashion."<sup>32</sup> (p212) Students' comments provide in-depth thoughts and level of understanding of students' knowledge regarding the content material.<sup>25</sup> The pre- and post-test questions

were used to assess whether students had "a good idea about a particular topic, individual, or history" or "if they had never heard of them."

The intent of the assessment plan was to review this new pedagogical intervention process and students' experiences (a process evaluation). Since it was not possible to accomplish other evaluation studies during the first semester, the next step should be to initiate a well-designed evaluation plan to measure the effectiveness of this modified class with a control class, such as Personal Health or Human Sexuality. A valid and reliable instrument, based on the content of the course should be developed and tested before using it for the actual study.

#### **COURSE OUTCOME**

The overall outcome of this modified course, using Fink's Model of teaching with service-learning and the sustainability con-

cept, was multifaceted. Learning the new content of the course, such as the value of environmental sustainability and its effect in sustaining health and wellness, was the central theme of the course. A variety of ways of sustaining health and wellness, including the use of natural and whole food products and the use of CAM were covered. Aside from learning how to sustain health and wellness, students increased their knowledge and competencies in a variety of areas that were specific to health educators. Students who were involved in planning committees learned how to work in a group, organize an event, and offer leadership (being a resource person). They received special recognition for their efforts that was above and beyond their usual class work in a form of a certificate, so that they could include in their degree portfolio. Following the fair, a public announcement was published in the local newspaper describing the intent, activities, and the success of the fair. Students who were interviewed increased their confidence and self-esteem by participating in these public speaking activities and learned how to use the media to communicate the subject and the activity to a wider audience. Several students were exposed to the first-hand experience of teaching others, and expressed satisfaction from contributing in this way. Here is an example of a student's reflection on the SHW fair:

"I ended up really enjoying the health fair. Previous to the actual event, I was nervous and dreading it. But then realized how much I had learned from the topic and how much my knowledge could benefit others. It caused me to really reflect on my own preferences and opinions regarding health care options. So I want to thank the professor for challenging me in this way."

The best part of using Fink's model of active learning and service-learning in this class was that students found the subject matter much more interesting and easy to absorb. Constant feedback and reflection helped them realize the value of the subject that is being learned. They enjoyed assign-



ments like the “Scavenger Hunt” and the “SHW Fair.” The activities were hands-on and the students were given a chance to be in control of the learning process. One student’s reflection on “Trace the Roots of Lunch” assignment was as follows:

*“Tracing the roots of my lunch was extremely challenging to do. However, I did obtain a very basic understanding that the cost of transporting food and obtaining food is very expensive and leads us far from sustainability.”*

By making the students’ class activity public using a local newspaper, the work of the college sustainability initiative was made relevant. Including college and local community, these students exposed the idea of sustainable health and wellness on a much larger scale. Students also learned valuable promotional strategies to market an event; thereby, involving the entire community.

### INTEGRATING SUSTAINABILITY INTO OTHER HEALTH COURSES

Integrating the concept of environmental sustainability and its relevance to health promotion and disease prevention can be easily applied to many other health education courses. Courses such as *Nutrition Education*, *Environmental Health Education*, *Personal Health*, *Community Health Education*, *Teaching Strategies in Health Education*, or any other content course with service-learning component can be modified by adding the concept of sustainability and explaining its relationship to human health. Instructors can decide the extent of material that should be covered and the logical process for class activities based on the content of the course. The aim should be how to shift the students’ thinking by engaging them with sustainability concepts from different perspectives, rather than approaching it in one traditional way. The Fink’s learning model (the framework) helps instructors to develop critical and reflective thinking process, to persuade students to constantly discuss the method and the topic of their learning, and to get feedback on their reflection. As long as the process is interac-

tive and the subject is realistic and practical to students’ lives, they will stay interested and engaged.

Instructors who would like to integrate sustainability into the course should get prepared ahead of time with teaching materials and develop a logical justification as to how environmental sustainability is pertinent to the content of the course they are teaching. Activities required for the course must be laid out in the syllabus along with an explanation of what this type of integration means to the overall student learning. Staying focused until the end of the course with the sustainability theme, and having closure with an innovative activity is greatly recommended.

### CONCLUSION

For the health education discipline, it is imperative to stay current and embrace critical health topics in a timely manner whether they be sexuality, obesity, or environmental sustainability. Describing the United Nations Millennium Development Goals (MDGs), Fain expresses his concerns about sustainability issues and points out that sustainability is at the center of the MDGs, and that addressing these issues should be the moral mission of health educators.<sup>33</sup> Integrating environmental sustainability into the course, and connecting the theme of sustainable health and wellness, can be a meaningful and satisfying experience for all of those involved. Although implementing the entire format every semester may not be practical for everyone, the concept and methodologies can be used in several health education courses.

According to a recent study, practicing health educators were not as familiar with the less frequently used CAM modalities as with the most commonly used ones. Therefore, it was recommended that CAM be implemented as part of a professional preparation curriculum and in the form of continuing education for health educators in the U.S.<sup>34</sup> Besides the information on CAM, other topics such as the value of natural and whole products, avoiding commercial fads, and many other issues surrounding sustain-

ability would strengthen a well-rounded knowledge base for all health education students. Integrating these topics into an undergraduate curriculum is a great way to expose prospective educators early on.

According to Orr, “The concern for our longevity as a species represents a maturing of our kind to consider ourselves first as “plain members and citizens” of an ecological community; and second, as trustees of all that is past with all that is yet to come—a mystic chain of gratitude, obligation, compassion and hope.”<sup>35(pixiii)</sup> Health educators need to move beyond the personal health mode to the health of others that may be affected due to individual behavior. Ayurvedic medicine, an ancient health modality, believes that “Hitayu” (public health) and “Sukhayu” (personal health) influence each other. As human beings, we have an obligation to others and for ourselves.<sup>36</sup> “Others” could represent anything from other people, animals, and the environment. We need to start thinking about health in terms of “systems thinking,” as we have now realized that everything is connected and for every action there are consequences.<sup>37</sup>

For health education students, integration of sustainability into a course provides an opportunity to follow above-mentioned principles, practice health education competencies, and serve the community in a meaningful way. As a part of service-learning, the college/universities can directly collaborate with local public schools to involve them in activities such as community gardening, which can extend the idea of locally grown produce and its effect on health and wellness. Students can accomplish their intellectual, moral, and civic responsibilities and help fulfill mission of the campus sustainability initiative, the department, and the institution.

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