

Using the Electronic Superhighway to “Drive” Your Foods and Nutrition Curriculum: Recommended Websites for Foods and Nutrition Educators

**Carol A. Friesen
Jo Carol Chezem
Katherine Beals
Ball State University**

Considering the growth of the Internet and its use by the public, it is imperative that nutrition educators become familiar with Internet resources. This article highlights a variety of foods and nutrition-related websites selected for their accuracy and reliability. Not only will these sites enhance your teaching, but they also will provide the user with current, up-to-date information well before it is published in texts or available in most libraries.

In recent years, the use of computer technology has become a viable—almost essential—means of gathering and disseminating nutrition information. Both stand-alone applications (e.g., nutrient analysis programs, computerized Food Frequency Questionnaires, recipe management and menu planning, risk assessment tools) and on-line applications (e.g., Internet, e-mail, electronic bulletin boards, search engines, computer conferencing) are available to update and enhance every professional’s output (Kolassa & Miller, 1996). The over-abundance of information on-line, along with the concomitant need to critically analyze their content for accuracy and determine their appropriate use or application, can be overwhelming (Hertzler, Young, Baum, Lawson, & Penn-Marshall, 1999). Properly used, however, the electronic superhighway can be used to facilitate or enhance current course objectives, particularly those related to development of materials, evaluation, synthesis, and critical-thinking skills (Rodriguez, 1999). This article highlights a variety of foods and nutrition-related websites selected for their accuracy and reliability. Students and teachers alike can turn to these sites with confidence to update their knowledge and enhance their classroom teaching/learning.

Clearinghouse of Reliable Websites

Because of the unregulated nature of the Internet, the validity of information should always be questioned (Hertzler et al., 1999). Turning to a reliable clearinghouse of nutrition information, however, removes the first layer of skepticism and allows the novice to proceed with confidence. One reliable nutrition clearinghouse is <http://www.navigator.tufts.edu>. This website, sponsored by the Tufts School of Public Health, screens all nutrition-related websites and ranks them on the following criteria: (a) nutrition accuracy, (b) depth of nutrition information, (c) frequency of site updates, and (d) usability. The user first selects the type of information they are looking for (e.g., women’s health, professional, educators) and then sorts through a variety of websites that are ranked in order from best to worst. The user is able to read the reviewers comments and, if interested, be linked directly to the website of interest.

One of the most comprehensive clearinghouses is <http://www.nutrition.gov>. This website, containing links to a variety of professional and consumer resources, allows the user to search for information using standard search-engine technology. As the name implies, this

website focuses on government publications, documents, and resources, but also contains numerous links to scholarly, professional, and consumer-related data as well.

Another food and nutrition clearinghouse is <http://www.foodandhealth.com/>. This website contains links to a host of commodity groups, professional organizations, major corporations, and educational sites. The “Editor’s Picks” and the “Food and Book Links” are good places to start your tour of this website. Many teachers turn to this site monthly to download seasonally-related clip art, recipes, health calendars, and activities.

Nutrition Reference Materials

The federal government has several outstanding websites for nutrition professionals. A wealth of information can be retrieved on the U. S. Department of Agriculture's Center for Nutrition Policy and Promotion website, <http://www.usda.gov/cnpp>. This site contains many valuable professional resources hot off the presses. This site allows the user to download government documents, conference proceedings, and meeting announcements as well as clip art (e.g., the Food Guide Pyramid) in camera-ready copy. Another government site is <http://www.nal.usda.gov/fnic>. The Food and Nutrition Information Center (FNIC) provides a host of resources for teachers, professionals, and students. Here you can access the latest information about the Food Guide Pyramid, the newly revised Dietary Guidelines, and the latest information about the school lunch and breakfast program regulations. Most government documents, journals, and conference proceedings, in addition to camera-ready clip art, are available in a downloadable form from this website. Click on the flashing “Teachers Click Here” button on the left side of the screen and you will be directed to an outstanding list of food and nutrition resources for teachers. Students like this website as the user is quickly linked to pertinent documents and journal articles that address a variety of subjects, making research projects much easier and more current than would be possible from hard copies of documents available in most libraries.

Individuals interested in learning more about vegetarianism should be able to find what they are looking for at <http://www.vrg.org>. This website, sponsored by the nonprofit Vegetarian Resource Group, provides news, recipes, nutrition information, links, and ideas for those interested in becoming vegetarians.

Those interested in checking out consumer fraud should check out <http://www.ncahf.org>, the National Council Against Health Fraud’s web page. This consumer-friendly site contains updates on the latest health frauds and fads and provides links to a variety of consumer watchdog groups.

Electronic Communication Among Professionals

Finding the right answers to unusual consumer questions has been made easier through the development of the Internet. The Internet has made it possible for people with similar academic training and interests to connect while being separated by thousands of miles (Evers, 1996). Several professional organizations maintain electronic communications available only to their members (e.g., SNEEZE for members of the Society for Nutrition Education). A listserv set up by Purdue University, however, is free and open to anyone who wants to know the kinds of questions and concerns being voiced by the general public and wants answers from academically-trained professionals. The original purpose of this e-mail connection was to find a way for Cooperative Extension foods and nutrition specialists in the United States to quickly contact each other about consumer questions or educational programs (Evers). Today this

listserv has expanded to researchers and educators across the country. To participate, simply send an e-mail message to almanac@ecn.purdue.edu, and type the following message in lowercase letters: subscribe fnspec_mg. If you find the amount of information overwhelming, or the discussions irrelevant to your needs, the user can unsubscribe by simply sending the message “unsubscribe fnspec_mg” to the address listed above.

Diet Analysis and Energy Calculation Programs

Computerized diet analysis programs empower individuals to become active participants in their health care by allowing them to compare daily intakes to daily nutrient requirements (Painter & Sabbert, 2001). A quick trip to <http://spectre.ag.uiuc.edu/~food-lab/nat/> directs the user to The Nutrition Analysis Tool (NAT) and the Energy Calculator (EC). The NAT analyzes diets for calories, fiber, fat, protein, and more than a dozen other nutrients and tells whether or not the diet meets the Recommended Dietary Allowance (RDA) for age, weight, and sex for each nutrient. The EC can quickly calculate approximately how much energy a person burns during the day or a more precise energy calculation requiring a 24-hour activity log. The NAT and EC together receive over 1,000,000 hits monthly from over 90 countries (Painter & Sabbert).

Another website with an easy to use energy calculator is <http://www.shapeup.org>, the website for Shape Up America, the organization founded by former Surgeon General C. Everett Koop to encourage Americans to eat less, move more, and slim down if needed. Two of the most frequently used features of this website are the Body Fat Lab and the simple-to-use Body Mass Index (BMI) calculator found in the BMI Center.

Nutrient Resources

When it comes to teaching about the functions and sources of nutrients, do you feel like you are lost in a strange land with no roads signs and an empty tank of gas? If so, jump on the superhighway! The website, <http://www.freshstarts.com>, was voted one of the favorites by students in a college nutrition course for elementary education majors as it not only provides excellent lesson plans, but it also includes a variety of graphics associated with each vitamin. Many professionals turn to the Mayo Clinic Diet and Nutrition Resource Center site, <http://www.mayohealth.org/home/>, to access experts who answer nutrition questions, nutrition quizzes, and reference articles. This site is, in general, an outstanding place for teachers and students to turn for accurate information on all health-related areas, not just nutrition.

It is hard to beat Dole’s website, <http://www.dole5aday.com>, for their lesson plans, interactive games, eye-appealing graphics, and student worksheets. Although the CD-ROM, free to teachers, was developed for upper elementary and middle school aged children, it would be an appropriate, fun review for high school students.

You can always count on the accuracy of the information retrieved from the American Dietetic Association’s official website, <http://www.eatright.org>. Several commodity groups with websites worth exploring include the Soyfood Association of North America’s site at <http://www.soyfoods.org> and the Wheat Commission’s site, <http://www.wheatfoods.org>. Your students can plan health-conscious meals with the help of <http://www.mealsforyou.com>, a site that contains hundreds of recipes automatically adjusted based on the number of servings desired and that automatically creates a shopping list. This site would be especially good for students in meal management and foods classes.

Sports Nutrition

A recent search on a common Internet search engine using the key words *Sports Nutrition* elicited over 1 million hits. Thus, there is no shortage of sports nutrition information on the Internet. The difficulty lies in separating fact from fiction and obtaining information that is both accurate and useful. Many sports nutrition websites are commercial in nature; the goal is to promote a product or program. Identifying the few that do not have a financial motive can be a challenge. Below is a description of three of the best sports nutrition websites along with an indication of how these sites could be incorporated into the curriculum.

The Gatorade Sports Science Institute, <http://www.gssiweb.com>, is probably the most comprehensive website available on the topic of sports nutrition. The site would be most appropriate as a resource for the instructor due to the scientific nature of the information provided; however, the practical information might be appropriate for the high school student. The site contains articles on a variety of sports medicine topics authored by experts in exercise science, nutrition, and sports medicine. The scientific articles summarize the most recent findings from research in the areas of exercise science and sports nutrition. The articles discuss the practical applications/guidelines of sports science research to the athlete or active individual. Examples of some of the subtopics found in the practical information section include: hydration, kids and sports, dietary supplements in sports, and eating on the road. In addition, there is also an "ask the expert" which provides answers to some of the most frequently asked questions about sports nutrition as well as allows the user to submit a question.

The *Sports, Cardiovascular, and Wellness Nutritionists (SCAN)* website, www.nutrifit.org, contains articles on hot topics in the area of sports nutrition and eating disorders. SCAN is a practice group of the American Dietetic Association. The articles found at this site are written in simple language and use relatively non-scientific terminology, making them appropriate for both teacher and student. Some examples of topics found on the site include "nutrition 101 for athletes," "nutrition aspects of overtraining," and "the basics of muscle recovery post-workout."

The University of Illinois Extension: Sports and Nutrition: the Winning Combination, www.urbanext.uiuc.edu/hsnut, is a great website for the adolescent (middle and high school) athlete. There are numerous topics that would appeal to the young athlete including keeping energy levels up, keeping fluid levels up, and ways to ensure your diet doesn't let you down. This site contains a downloadable pre-game meal planner that provides the young athlete with practical tips for choosing the appropriate foods before, during, and after exercise. There are even suggested meal plans and a place where the athlete can design his or her own meals using the *foods to choose* and *foods to avoid* checklists.

Eating Disorders/Weight Control

There are several available websites that focus on the issue of eating disorders. Because understanding what constitutes healthy eating is just as important as identifying unhealthy eating habits, eating disorder sites that also incorporate information of healthy weight management would be most beneficial from a teaching perspective. Below are four sites that would serve as excellent resources for the instructor as well as be appropriate for the student interested in the areas of weight control and eating disorders.

National Eating Disorder Resource Center (EDAP) site, www.edap.org, offers information on the issue of eating disorders that would be beneficial for the teacher. EDAP is the nation's largest non-profit organization devoted to the awareness and prevention of eating

disorders. Middle school educators can download a free copy of the *Body Wise* information packet that contains all the materials needed to develop a body esteem development program. Grade school educators might be interested in the downloadable *Healthy Body Image Curriculum* (for 4th-6th grades). This curriculum draws together resources that enhance the students' knowledge of science, health, history, literature, social studies, and consumer skills. For the high school educator there is the GO GIRLS!™ program, a 12-week curriculum that focuses on crucial topics such as body image, media awareness, and the power of speaking out.

The *Mirror-Mirror Eating Disorders* website, <http://www.mirror-mirror.org>, is dedicated to individuals whose lives have been touched by eating disorders. It provides valuable information on the nature and scope of eating disorders and is written in a conversational format, as if the writer were talking to the eating disorder afflicted. There are also sections that deal with recovery, myths and realities of eating disorders, resources for getting help, and an extensive list of links to other related websites. This site would be perfect for the young person seeking to learn more about signs, symptoms, complications, and treatment options for eating disorders.

The Weight Control Information Network (WIN), <http://www.niddk.nih.gov>, provides various publications including fact sheets, brochures, article reprints, and conference and workshop proceedings on obesity, weight control, and nutrition. WIN, a national information service of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), National Institutes of Health (NIH), was established in 1994 to provide health professionals and consumers with science-based information on obesity, weight control, and nutrition. This is a valuable resource for educators looking for accurate information on obesity and weight control.

The Healthy Weight Network website, <http://www.healthyweightnetwork.com>, provides a variety of resources (books, journals, articles, news releases, and briefs) that would be beneficial for educators. Educators can download fact sheets and news releases covering such topics as identifying weight loss fraud and quackery, top 10 reasons not to diet, eating disorders in female athletes, obesity and teen dieting, and obesity and eating disorder prevention strategies. In addition, there are valuable resources available for purchase from the site, such as the book, *Children and Teens Afraid to Eat*, by Francis M. Berg. The book describes six major problems frequently experienced by teens--dysfunctional or disordered eating, undernourishment of teenage girls, hazardous weight loss, eating disorders, size prejudice and overweight--and provides clear guidelines to parents, teachers, and health professionals, along with a wealth of charts, tips, and how-to suggestions. Teachers will benefit from the advice on how to spot eating problems in athletes and other students. Prevention programs and pitfalls to avoid are explained.

Food Safety

Perhaps one of the most important topics to include when teaching foods and nutrition is up-to-date information about food safety. The authors recommend the following four websites to enhance your lecture material and provide a source of accurate information.

Gateway to Government Food Safety Information, <http://www.foodsafety.gov>, contains links to several federal websites containing food safety materials, as well as consumer fact sheets on timely issues. The section on “Kids, Teens, and Teachers” is rich in materials of interest to Family and Consumer Sciences teachers. The Food and Drug Administration’s Center for Food Safety and Applied Nutrition, <http://vm.cfsan.fda.gov/list.html>, contains a wealth of information on the safety of food beyond the kitchen, including information about pesticides, biotechnology, and federal regulations. Students and teachers alike will appreciate the section for “Kids, Teens,

and Teachers” in this website. Excellent reference materials can be found at the Centers for Disease Control and Prevention’s Foodborne Illness site, <http://www.cdc.gov/health/foodill.htm>. This site contains concise fact sheets on the most common foodborne illnesses and general articles on food safety topics.

Lastly, we recommend two University-sponsored food safety websites. The Iowa State Cooperative Extension Food Safety Project, <http://www.extension.iastate.edu/foodsafety>, includes numerous student-ready materials, including a four-part lesson on food safety and a presentation on steps to reduce the risk of foodborne illness at home and a primer on HACCP and food law. The North Carolina Cooperative Extension Service site, <http://www.ces.ncsu.edu/depts/foodsci/agentinfo>, is rated “one of the best” by the Tuft’s Nutrition Navigator. This site offers food safety advice by category (e.g., meat, eggs, fruits), hot topics, information about specific organisms of concern, and provides valuable links to government and industry websites that provide food safety information.

Foods Information

Teaching food science at the secondary level is a difficult challenge for many, especially in these times of budget restrictions and teacher overload. Teachers can maximize their time and energy by turning to the following four websites that focus on the instruction of food science.

Check out the Utah State Board of Education Food and Science Cook and Eat Chemistry website at http://www.uen.org/utahlink/lp_res/nutri375.html#lesson. Here you will find excellent resources, including a curriculum guide and in-depth lesson plans, to teach food science at the secondary education level.

The U. S. Department of Agriculture’s (USDA) Food Distribution Programs website, <http://www.fns.usda.gov/fdd/MENU/ABOUTFDP/aboutfd.htm>, contains useful information about USDA commodity foods and the various food distribution programs that provide these foods to individuals and institutions.

All About Food, <http://www.nal.usda.gov/fnic/consumersite/allaboutfood.htm>, is another USDA-sponsored website, with information provided by the Food and Nutrition Information Center (FNIC) via the National Agriculture Library (NAL). This site contains a cornucopia of food-related materials related to food selection, storage, preparation, and preservation.

Lastly, the Ohio State University College of Food, Agriculture, and Environmental Science maintains a comprehensive coverage of a wide range of topics including cultural diversity of food, food science, and food preparation. This site is located at <http://www.ag.ohio-state.edu/~ohioline/lines/food.html#FOODS>.

Summary

Considering the growth of the Internet and its use by the public, it is imperative that nutrition educators become familiar with Internet resources. Not only will these sites enhance your teaching, but they also will provide the user with current, up-to-date information well before it is published in texts or available in most libraries. Hopefully these websites will help Foods and Nutrition educators merge onto the information superhighway with minimal crashes and allow you to reach your speed limit in the least amount of time!

References

- Evers, W. D. (1996). Enlarging your professional community through electronic communications, *Journal of Nutrition Education*, 28, 47B.
- Hertzler, A. A., Young, V. E., Baum, C. M., Lawson, M., & Penn-Marshall, M. (1999). Nutrition and exercise information for children on the Internet. *Journal of Family and Consumer Sciences*, 91, 100-103.
- Kolasa, K. M. & Miller, M. G.. (1996). New developments in nutrition education using computer technology. *Journal of Nutrition Education*, 28, 7-14.
- Painter, J. E., & Sabbert, B. (2001). Two internet diet analysis programs. *Journal of Nutrition Education*, 33, 173-174.
- Rodriguez, J. C. (1999). Integrating on-line technology into family and consumer sciences education: Examples and ideas from a nutrition education course. *Journal of Family and Consumer Sciences*, 91, 54-56.

About the Authors

Carol A. Friesen, Ph.D., R.D., is an Assistant Professor, Katherine Beals, Ph.D., R.D., is an Associate Professor, and Jo Carol Chezem, Ph.D., R.D. is an Associate Professor in the Department of Family and Consumer Sciences at Ball State University.