Notes from the Editor

The guest editors for this issue of the *Journal of Family and Consumer Sciences Education* are Wanda S. Fox, Daisy Stewart, and Patricia M. Erickson. The guest editors also led the two-year development of the *Standards* project. The participation in the two-year project of more than 300 family and consumer sciences educators from across the nation motivated the development of a resource for the *Standards* in the form of published articles. This is the second issue of the *Journal's* volume devoted to the publication of articles on the *National Standards for Teachers of Family and Consumer Sciences*.

There were several family and consumer sciences educators who participated in this issue of the *Journal* as authors. The time and effort you devoted to share your expertise in the development of your article are greatly valued and appreciated by the profession.

To family and consumer sciences educators who served as peer-reviewers for this issue, appreciation is extended to you. Thank you for your commitment to the profession and for providing feedback on the manuscripts.

The *Standards* were developed as a benchmark for beginning family and consumer sciences teachers, so a primary audience consists of family and consumer sciences teacher educators who will use the articles as a resource when preparing preservice teachers for the classroom. In addition, this series of articles on the *Standards* should be informative and useful for novice and experienced family and consumer sciences teachers.

Bettye P. Smith
Associate Editor

Notes from Guest Editors

We are pleased to present the second of several issues of the *Journal of Family and Consumer Sciences Education* devoted to the *National Standards for Teachers of Family and Consumer Sciences*. The *Standards* provide a national model for what a beginning teacher in family and consumer sciences should know and be able to do. The *Standards* impact areas such as state-level family and consumer sciences teacher licensure, design and accreditation of teacher education programs, and assessment of teacher candidates.

The set of ten *Standards* that were developed delineate core content and professional practice for teachers of family and consumer sciences. The *Standards* are presented on page v, following these notes. Each of the *Standards* incorporates complex concepts integral to the teaching of family and consumer sciences. Since the *Standards* are utilized in a wide variety of teacher education programs, they are implemented differently depending on state and institutional contexts. This series of articles will include one or more articles on each of the ten *Standards*. With the complexity of the concepts in the *Standards*, the authors of articles often focused on a selected part of the *Standard* or used a specific perspective. All of the articles examine the research related to the *Standards* and apply it to family and consumer sciences education teacher preparation.

This issue includes the second four articles in this series. The articles in this issue examine four of the ten *Standards*: Standards 2 and 4, which focus on content, and Standards 7and 8, which focus on professional practice. Articles on other the Standards are included in previous and future issues.

The article by Mary J. Pickard and Susan A. Reichelt examines Standard 2, Consumer Economics and Family Resources. They provide evidence of the critical importance of financial literacy for individuals and families in today's economic setting. Because current and future family and consumer sciences teachers often need courses related to this Standard that may not be available locally, the authors emphasize Internet delivery systems that can be used for alterative delivery of courses. This article will be an important resource for teacher educators and content specialists who seek ways to use technology to benefit teachers.

In their article on Standard 4, Nutrition, Food, and Wellness, Carol A. Friesen, Alice A. Spangler, and Joan R. McFadden summarize research and include resources on nutrition and wellness choices; food acquisition, handling, preparation, and service; the impact of technology, and external influences on nutrition and food practices. The information they provide will encourage family and consumer sciences teacher educators and their nutrition colleagues to emphasize the importance of teaching nutrition in ways that will motivate student learning.

The article by Nancy E. Thompson and Julie P. Wheeler on Standard 7, Learning Environments, looks at the physical, intellectual, and emotional aspects of the environment. The authors have included research on each of the areas and ways to implement that area into the family and consumer sciences classroom. They summed up the article by looking at how to assess the Learning Environment. The article will provide teacher educators an excellent overview of the

research related to the learning environment and what is essential for the family and consumer sciences classroom.

The fourth article in this issue, by Jody L. Roubanis, Sammie F. Garner, and Rosa S. Purcell, focuses on Standard 8, Professionalism. Their article is grounded in the "Ethical Perspectives for FCS Professionals" model that they have developed, with specific recommendations for applying this model in FCS teacher education. The article also includes sections on civic engagement, advocacy, and ongoing professional development, as advocated in Standard 8. The authors provide historical and scholarly backgrounds, definitions, rationales, instructional strategies, and assessment guidelines that will be very useful for fostering professionalism with teacher candidates.

All of the articles in the series were peer reviewed and edited using the requirements approved by the Editorial Board for all articles published in the *Journal of Family and Consumer Sciences Education.* It would not have been possible to publish this issue and subsequent issues of the *Journal* focusing on the *Standards* without the assistance of the reviewers, all of whom met the criteria of the *Journal of Family and Consumer Sciences Education* to serve in this important role. The reviewers for the entire series are listed on page iv. We sincerely appreciate their contributions to this series.

We also would like to thank Bettye Smith, editor of the *Journal*, for her support in providing these issues as a resource for the profession.

Guest Editors
Wanda S. Fox
Daisy Stewart
Patricia M. Erickson

Journal Reviewers

The following individuals served as reviewers for the manuscripts submitted for consideration for the series of articles focusing on the *National Standards for Teachers of Family and Consumer Sciences.* They worked with guest editors Wanda Fox, Daisy Stewart, and Patricia Erickson to complete masked reviews of all submitted manuscripts, using criteria approved by the Editorial Board of the *Journal of Family and Consumer Sciences Education*.

Sue Bailey
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Kathy C. Croxall
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Merrilyn Cummings
New Mexico State University

Debra DeBates
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Helen Hall
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Northern Illinois University

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National Standards for Teachers of Family and Consumer Sciences

National Association of Teacher Educators for Family and Consumer Sciences – Approved 12/04

The *National Standards for Teachers of Family and Consumer Sciences* provides an overarching model of excellence for what a beginning teacher in family and consumer sciences (FCS) should know and be able to do. The National Association of Teacher Educators for Family and Consumer Sciences led FCS educators and other stakeholders from across the country to develop the *Standards*. The two-year, highly participatory process yielded an integrated set of standards with a high degree of national consensus, while allowing for variations in state teacher preparation and licensure. These standards are unique to FCS teachers. In addition, the beginning FCS teacher has general education background and meets overall professional education standards. As presented, the first four standards focus on FCS content; the remaining six emphasize professional practice. In each of these two groups, the standards are arranged alphabetically. The FCS process areas of thinking, communication, leadership, and management are incorporated throughout. Across all ten standards, the beginning FCS teacher demonstrates knowledge, skills, and attitudes to enable student learning.

1. Career, Community, and Family Connections

Analyze family, community, and work interrelationships; investigate career paths; examine family and consumer sciences careers; and apply career decision making and transitioning processes.

2. Consumer Economics and Family Resources

Use resources responsibly to address the diverse needs and goals of individuals, families, and communities in family and consumer sciences areas such as resource management, consumer economics, financial literacy, living environments, and textiles and apparel.

3. Family and Human Development

Apply principles of human development, interpersonal relationships, and family to strengthen individuals and families across the lifespan in contexts such as parenting, care giving, and the workplace.

4. Nutrition, Food, and Wellness

Promote nutrition, food, and wellness practices that enhance individual and family well being across the lifespan and address related concerns in a global society.

5. Curriculum Development

Develop, justify, and implement curricula that address perennial and evolving family, career, and community issues; reflect the integrative nature of family and consumer sciences; and integrate core academic areas.

6. Instructional Strategies and Resources

Facilitate students' critical thinking and problem solving in family and consumer sciences through varied instructional strategies and technologies and through responsible management of resources in schools, communities, and the workplace.

7. Learning Environment

Create and implement a safe, supportive learning environment that shows sensitivity to diverse needs, values, and characteristics of students, families, and communities.

8. Professionalism

Engage in ethical professional practice based on the history and philosophy of family and consumer sciences and career and technical education through civic engagement, advocacy, and ongoing professional development.

9. Student and Program Assessment

Assess, evaluate, and improve student learning and programs in family and consumer sciences using appropriate criteria, standards, and processes.

10. Student Organization Integration

Integrate the Family, Career and Community Leaders of America student organization into the program to foster students' academic growth, application of family and consumer sciences content, leadership, service learning, and career development.

Consumer Economics and Family Resources: Internet Delivery of Consumer Economics and Family Resource Management Courses

Mary J. Pickard and Susan A. Reichelt
East Carolina University

The majority of Americans lack the skills to manage their finances as evidenced by a national negative savings rate, a trillion dollar consumer debt, and increasing numbers of people filing for bankruptcy. The mission of family and consumer sciences is to provide for the well-being of individuals and families. Family and consumer sciences teachers facilitate the development of financial literacy: the ability to read, analyze, manage, and communicate about financial conditions that affect family well being. A severe shortage of conventionally prepared family and consumer sciences teachers is the impetus to provide alternative teacher certification routes. Frequently individuals seeking their teaching credentials via the alternate routes require additional university coursework to become highly qualified teachers. Courses in consumer economics and family resource management lend themselves well to online delivery. These courses delivered via the Internet result in comparable student achievement and little additional cost compared to face-to-face classes. This article addresses alternative delivery of coursework to meet Standard 2 of the National Standards for Teachers of Family and Consumer Sciences*: Consumer Economics and Family Resources.*

The National Association of Teacher Educators for Family and Consumer Sciences (NATEFACS) provided leadership for the development of standards to describe what beginning family and consumer sciences teachers should know and be able to do. Four of the 10 standards identify family and consumer sciences content knowledge, skills, and attitudes to facilitate student learning and the remaining six standards address professional practice.

The focus of this article is the Internet delivery of college courses that develop the financial literacy knowledge, skills, and attitudes a beginning family and consumer sciences teacher needs to acquire to meet Standard 2: Consumer Economics and Family Resources. As stated in this Standard, a family and consumer sciences teacher should: "Use resources responsibly to address the diverse needs and goals of individuals, families, and communities in family and consumer sciences areas such as resource management, consumer economics, financial literacy, living environments, and textiles and apparel" (NATEFACS, 2004).

Background and Rationale for the Standard

A Treatise on Domestic Economy, written by Harriet Beecher in 1884 (as cited in Jerpbak, 2005), was one of the original textbooks of the family and consumer sciences profession. In this text, Beecher proposed that education in "domestic economy" would help individuals overcome the poor living conditions of the times. Teaching household resource management continues to be central in the profession. The American Association of Family and Consumer Sciences (AAFCS, 2004) adopted the following mission statement during the 2006 annual meeting:

> The mission of the American Association of Family and Consumer Sciences (AAFCS) is to provide leadership and support to professionals whose work is to assist individuals, families, and communities in making informed decisions about their well being, relationships, and resources to optimize their quality of life. (n. p.)

Today many people use the Internet to locate information. The largest multilingual free-content encyclopedia on the Internet is Wikipedia, consulted by many individuals seeking to acquire information about a topic or concept. On Wikipedia, these seekers will find multiple entries describing family and consumer sciences. For example:

1. "Family and consumer science is the academic discipline which combines aspects of consumer science, nutrition, cooking, parenting, and human development, interior decoration, textiles, family economics, housing, apparel design, and resource management as well as other related subjects" (Wikipedia, 2006, n. p.).
2. "…is the study of providing for the well-being of individuals and households in the context of how they are influenced by marketplace institutions and communities, drawing from fields such as economics, household finance, and consumer protection" (Wikipedia, n. p.).
3. "Family and consumer science, or home economics, is an academic discipline which combines aspects of consumer science….family economics and resource management as well as other related subjects" (Wikipedia, n. p.).

This widely used Internet resource articulates that family and consumer sciences does provide the information and instruction Americans need to manage their personal and household resources for the development of healthy families and productive individuals. The mission statement and the Wikipedia definitions indicate that family and consumer sciences provides professional leadership to develop the knowledge and skills, which facilitate management of personal finances and family resources.

Need for Consumer Economics and Family Resource Management Education

The National Endowment for Financial Education (NEFE, 2006) indicates the average student who graduates from high school today lacks the basic knowledge and skills to be able to manage their personal financial affairs. They have no insight into the basic survival skills of earning, spending, saving, and investing (NEFE). The Jump$tart Coalition is a non-profit organization, with more than 170 national partners and 44 affiliated states, which seeks to improve the personal financial literacy of students in kindergarten through college (Jump$tart Coalition, 1997). It is mentioned prominently each year in Congressional resolutions proclaiming April as "Financial Literacy for Youth" Month. The Jump$tart Coalition's direct objective is to ensure that basic personal financial management skills are attained during the K-12 educational experience.

A biennial survey of financial literacy sponsored by the Jump$tart Coalition measures the personal financial knowledge level of a representative sample of high school students. "In the current [2005-06] survey, white students scored an average of 55 percent while African Americans scored significantly lower at 44.7 percent and Hispanics, 46.8 percent" (Jump$tart Coalition, 2006, p. 2). Lewis Mandell, Ph.D., is a professor of finance and managerial economics at the State University of New York at Buffalo School of Management. He conducts the biennial Jump$tart financial literacy survey of high school students and reported that "… despite the attention now paid to the lack of financial literacy, the problem is not about to resolve itself any time soon" (Jump$tart Coalition, p. 2).

Marginalized Population Subgroups

In education and population demographics, Texas and California are the first states to exhibit trends, which become evident later in other states. According to Zhu-Sams and Hayes (2004), in Texas the proportion of Hispanic elementary and secondary school students is predicted to be more than 66% by 2040, the African American population will be more than 8%, and the Anglo population will be less than 19% by 2040. The proportion of non-white students is also increasing in other states (Clotfelter, Ladd, & Vigdor, 2005). As classroom populations include more non-white students, the need for financial literacy education multiplies. The Jump$tart survey results also indicate that students from the highest income families, those having incomes of more than $80,000 per year, have widened their margin of greater financial understanding over the next highest group, those families with incomes from $40,000 to $80,000 annually (Jump$tart, 2006). Not only is there a knowledge gap among ethnic groups in the United States, there is also a knowledge gap between income groups.

These statistics, indicating the lack of financial literacy, are alarming to local and national government agencies because they indicate a majority of households and individuals are not successfully managing their financial resources. Alan Greenspan, the former chairman of the Federal Reserve from 1988 until his retirement in 2006, said, “No matter who you are, making informed decisions about what to do with your money will help build a more stable financial future for you and your family” (Greenspan, 2002, p. 1).

The information about the financial health of the U. S. population is discouraging. In 2006 the national savings rate was a negative 0.5%, the lowest since the Great Depression (Bureau of Economic Analysis, 2006), and the national consumer debt was over $2 trillion (Federal Reserve, 2006). The number of bankruptcy filings increased even though a new law was in place that was supposed to make it more difficult to file for bankruptcy (Administrative Office of the United States Courts, 2005). There was also concern that the average retirement savings of less than $50,000 would not be sufficient (DeVaney & Chiremba, 2005). More than ever individuals need education in consumer economics and family resource management to navigate the complexity of today’s financial environment. Enrollment in family and consumer sciences secondary education programs is one sure way to teach these basic and vital survival skills to high school students.

Increased Personal Financial Responsibilities

Our national financial system has become increasingly complex, placing more responsibility on individuals to manage their own finances. As America experiences a shrinking middle class, the gap between the “have’s” and the “have not’s” expands. Petroleum companies raised prices monumentally in answer to stockholder’s demands for increased profits, and the comfortable incomes generated from manufacturing and technology jobs have moved off shore. Managerial level employees no longer have job security as companies merge and down size. The specter of increasing energy costs, rising health care costs, a shrinking pool of workers to support retirees’ Social Security payments, and the elimination of corporate pensions by bankruptcy courts has many Americans’ gravely concerned about their financial futures.

Individuals today are experiencing a different kind of economy, where the labor market is less stable and millions of employees are labeled the "working poor." This creates an economic education challenge. More than ever, we need to help individuals and families become financially literate: to have the ability to read, analyze, manage, and communicate about personal

financial conditions that affect their material well-being. Financial literacy includes "the ability to discern financial choices, discuss money and financial issues without (or despite) discomfort, plan for the future and respond competently to life's changes that affect everyday financial decisions including events in the general economy" (Vitt, Reichbach, Kent, & Siegenthaler, 2005, p. 9). According to the National Endowment for Financial Education (NEFE, 2000), many Americans, especially those at the lower income levels, have very limited financial literacy knowledge and skills. It is the children of disadvantaged and low-income families who are disproportionately enrolled in career and technical education programs (Association of Career and Technical Education [ACTE], 2007; Goldfarb, Olabisi, & Lawrence, 2006), and who most likely will not learn to manage their financial resources unless they are taught to do so by their family and consumer sciences teacher.

Strategies for Implementation and Assessment of the Standard

The family and consumer sciences teacher candidates who complete the traditional on-campus family and consumer sciences education degree take face-to-face courses with the appropriate financial literacy content as requirements for their college major and degree. Such courses include *The Family as Consumers* and *Family Resource Management* at East Carolina University, *Resource Management* and *Family Financial Management* at Virginia Tech, and *Consumer Economic Issues* and *Personal and Family Finance and Management* at the University of Idaho. In these face-to-face courses, the teacher candidates have opportunities to acquire the knowledge, skills, and dispositions for teaching this content to others. In today's face-to-face classes, instruction may follow the didactic, information delivery model, or may include a combination of didactic instruction and problem-based scenarios involving students in the application of content principles to real-life scenarios.

Another option for today's college students is the mixed model for delivery of instruction in which online meetings replace a significant portion of the face-to-face instruction, utilizing electronic delivery tools. In both methods of content delivery, teacher candidates demonstrate acquisition of the knowledge and skills to teach family resource management and consumer economics by paper and pencil tests of content knowledge and by creation of performance-based assessments. Teacher candidates must also successfully complete a student teaching/internship before receiving endorsement for certification from their college or university.

Meeting the Demand for Family and Consumer Sciences Teachers

Shortages of fully certified teachers have led some states to approve alternative means to become a highly qualified teacher (U. S. Department of Education, 2004). In some states (e.g., Idaho, Texas, North Carolina, California) these alternative pathways permit individuals with a college degree to become certified as teachers by meeting specified education requirements during their initial years of employment as a teacher. Rarely are these individuals able to attend the additional face-to-face college classes they need while they are working full-time as teachers.

Throughout history, students have come to the university for their education and institutions had residency requirements forcing students to be on the campus. Today access to higher education has radically changed with Internet delivery. Courses available via the Internet enable time- and place-bound individuals to complete the college classes they need to become certified teachers. With an Internet connection and computer, college coursework is accessible anytime and anywhere.

In the states that provide for alternative access to teacher certification, individuals who did not complete the traditional teacher preparation program can become certified teachers. Lateral entry is a term used in North Carolina to describe the process by which individuals with a related undergraduate degree, such as Child Development, Retail Merchandising, or Hospitality Management, can begin teaching secondary family and consumer sciences courses while completing the education and employment requirements for teacher certification. This form of on-the-job training and coursework, completed while under the supervision of an administrator or mentor teacher, leads to full certification as a family and consumer sciences teacher. Individuals who are teaching full time at a distance from a college campus are the individuals who most need the online delivery of courses. In North Carolina the majority, estimated by the state family and consumer sciences education specialists to be 90%, of newly hired family and consumer sciences teachers attending the Summer Career and Technical Education Conference are individuals seeking certification via the lateral entry/alternative route process.

For many universities with small family and consumer sciences teacher preparation programs, there is an availability gap for consumer economics and family resource management courses, since enrollment may not be sufficient to offer the course every semester or even every year. Generally, there are limited numbers of faculty who are prepared to teach such a course. The Great Plains Interactive Distance Education Alliance (2007) has compiled information about family and consumer sciences online courses. Included on their Web site are online courses in consumer economics and family resource management.

Many universities (e.g., Grand Canyon University, University of Phoenix, Kaplan University, Ashford University, Drexel University) offer education degrees online. Some universities sponsor mostly online programs leading to a master's degree in Family and Consumer Sciences Education (Iowa State University, 2006). A search of the Learning and Life U.S. News Web site indicated there were more than 1,000 online graduate degree programs available at that time (U.S. News & World Report Online, 2006). In fact, today, 90% of four-year public institutions and more than 50% of four-year private institutions offer online education, while approximately 25% of K–12 public schools offer e-learning, according to the United States Department of Education as reported by Baker (2007). The Pew Internet and American Life Project reported that 88% of 18 to 29 year olds use the Internet, so concerns about technology proficiency are less of an issue today than a few years ago (Pew, 2006). Previously reported gender differences in rates of computer or Internet use no longer exist (DeBell & Chapman, 2003).

Effectiveness of Internet Delivered University Courses

Education faculty from Texas State University compared the teaching of instructional planning skills to education students in face-to-face and online course sections using a quasi-experimental design. "Both groups made significant gains in learning to plan technology-supported, problem-based learning and a willingness to implement innovative instruction. Post assessment results showed no significant difference between groups" (Peterson & Bond, 2004, p. 345). Researchers from Harvard University reviewed alternative certification outcomes and report students in online courses received at least equal if not higher scores than students in face-to-face delivered courses (Johnson, Aragon, Shaik, & Palma-Rivas, 2000; Johnson, Birkeland, & Peske, 2005).

When full-time faculty members teach online courses they are more expensive to deliver, because of the higher personnel costs, than when they are taught by part-time adjunct faculty, but

are also considered to be of higher quality (Milam, 2000). Thompson (2002) reported an Effective Distance Education (EDE) model. “The number and variety of teaching/learning strategies were positively correlated with the experience level of the instructor. The experienced teacher used 40 of 46 strategies. The less experienced instructor used 27, and the novice instructor used six” (Thompson, p. 21). In the virtual classroom “the teaching/learning strategies used by the experienced instructor were rated significantly higher than those used by the less experience instructor” (Thompson, p. 21).

Advanced physician training courses involving manipulation of instruments with patients in Intensive Care situations were taught face-to-face and online. Both courses used the same graphics and text but substituted video, rather than live demonstrations of procedures, for the online instruction. Students self selected into either the face-to-face or online sections. Baseline data from each group included performance of practical skills and a written test. Final test results, including the practical aspects of the training, showed a slightly greater, but not statistically significant difference for the online students. Overall, the learner satisfaction rating by online students was significantly higher than that of the traditional classroom students, a finding consistent with results from other researchers comparing the two methods. (Aragon, Johnson, & Shaik, 2002; Bello, et al., 2005; Neuhauser, 2002).

A number of studies looked at whether students who select online learning differ in ways that affect their academic performance. Katz and Yablon (2003) reported that students who participate in online courses become more favorable to learning via technology. Online students seem to value convenience and flexibility more than face-to-face interaction with instructor and peers (Roblyer, 1999). Abbott (2006) reported that the “smart classroom” is essential to 21st century school reform and education improvement. Smart classrooms are those facilities that have internet access and PowerPoint capabilities as well as other technology available on college campuses. “College students [in face-to-face classes] who have grown up in the high technology environment frequently request that their professors prepare their lecture notes using PowerPoint, have a course Web site, and use multimedia to illustrate key themes” (Debevec, Shih, & Kashyap, 2006, p. 293).

Time Commitments and Online Teaching

Cavanaugh (2005) indicated faculty in various departments across campuses express the opinion that teaching online takes considerably more time than traditional face-to-face instruction. There is little recent data from family and consumer sciences teacher educators to support or disprove this belief. The number of students in the online class is a predictor of faculty time commitment, according to Cavanaugh since faculty-student interaction via e-mail requires considerable time.

Hislop and Ellis (2004) secured records of instructor time for seven comparable pairs of online and traditional course sections. They reported the total time expended by instructors was approximately 5 minutes more per online student when compared with the traditional sections, a difference that was not statistically significant. Due to the nature of online technology and faculty experience with distance education technology, faculty may perceive an increased effort involved in teaching an online course because online courses require an increased level of interactivity on the part of the instructor (Hislop & Ellis). Faculty also need to rearrange their schedules so that students’ expectations of immediate responses for answers to questions and requests for interaction are met. “The amount of work on the weekend by faculty was the same for online and traditional sections, averaging 1.4 hours per student per section during an 11 week

quarter" (Hislop & Ellis, p. 28). Faculty can limit the amount of weekend time they must spend with online students by establishing a mid-week assignment deadline when they are at work and available to students when most questions arise (Young, 2002).

Delivery Costs for Online Courses

Milam (2000) performed a complex hybrid method of cost analysis of online courses for the Andrew H. Mellon Foundation. Analysis factors included student/course enrollment, departmental consumption/contributions, space utilization/opportunity costs, direct non-personal costs, computing support, faculty/staff workload, and administrative costs and revenue streams. The study involved four pairs of courses: English, management information systems, decision sciences, and astronomy. The study found that total expenditures for traditional and online courses were relatively the same, but net costs per section were higher for online courses. In addition, departments with multiple course sections benefited by offering online courses. An understanding of how to manage technology costs effectively was a positive byproduct for the faculty who were involved in the study.

Effectiveness of Online Family and Consumer Sciences Instruction

A few research studies are available which consider the effectiveness of online family and consumer sciences teacher education and preparation outcomes. Johnson, Burnett, and Rollings (2002) reported a comparison of internet and traditional classroom instruction for a consumer economics course. They reported the online group had a significantly higher achievement level on the pretest and post-test than did the face-to-face group. A family and consumer sciences education faculty member at the University of Idaho who teaches both face-to-face and on-line sections of the Consumer Economics and Personal and Family Finance courses reports "their [online students] grades tend to be higher and they tend to do better [work on assignments] than on-campus students. They certainly do more comprehensive work on the assignments when they post them online for their classmates to see and react to (which is) something I don't do with my on-campus students" (V. Junk, personal communication, May 8, 2006). Other family and consumer sciences faculty teaching online courses have indicated similar outcomes. Johnson et al. indicated that their online students reported spending 6 to 10 hours per work working on the course while the face-to-face classroom students reported working 5 hours or less per week on the course. Online students also averaged a significantly longer workweek than did the traditional students (Johnson et al.)

Online resources for family and consumer sciences teachers

There is a wealth of material online to facilitate teaching financial literacy. These sites can be especially helpful to teachers who are completing their family and consumer sciences teacher certification coursework. Montana State University, in cooperation with the Take Charge America non-profit financial counseling and debt management service, operated the Family Financial Literacy project and provided an annual Family Economics and Financial Education Conference (FEFE, 2006) to help teachers implement their curricular materials. The FEFE program recently moved to the University of Arizona.

The National Endowment for Financial Education (NEFE) also provides multimedia delivery of personal financial literacy and self-help education materials for the public, as well as a curriculum to guide instruction in the secondary classroom. NEFE has a six unit High School Financial Planning Program (HSFPP) curriculum available online with portals for teachers,

students, and sponsors. An 18-month evaluation of the HSFPP indicates that students who used the program made significant gains in their financial knowledge, behavior, and confidence after completing the program. This evaluation used responses from 202 teachers and 5,329 high school students (NEFE, 2006).

Conclusions

"As adults are faced with the necessity of continuing education throughout their lives, the need for convenient distance education programs is intensified" (Howland & Moore, 2002, p. 183). With unrelenting demand for family and consumer sciences teachers, and lateral entry/alternative routes to teacher certification, the need for distance delivered courses is urgent. The need for family and consumer sciences teachers and for lifelong education opportunities behoove family and consumer sciences programs to develop and offer an increasing number of the required teacher preparation courses online. Research indicates that medical students are able to learn complex and technical information and skills online. Johnson et al.(2002) found their online students did significantly better than did the face-to-face students in their consumer economics courses. The advent of digital photography, live web cams, and technologically proficient faculty and students make this alternative delivery of courses a viable option for the development of the dispositions, knowledge, and skills that beginning family and consumer sciences teacher candidates need.

Costs of instruction and time commitment of faculty become moot issues as faculty develop increased competency with the tools of the virtual classroom. Access to appropriate courses delivered in an any-time, any-where format are critical to strong and vital secondary family and consumer sciences programs because enrollments in traditional teacher preparation programs are stagnant and the demand for certified family and consumer sciences teachers continues to be strong in the majority of states.

Brief Annotated List of Print Resources

Conrad, R-M., & Donaldson, J. A. (2004). *Engaging the online learner: Activities and resources for creative instruction.* San Francisco: Jossey-Bass.

This book, written for higher education faculty, consists of two parts. Part One provides a basic framework with which to organize activities. This framework serves to engage student into the online environment. Part Two presents activities to promote engagement among online learners on a phase-by-phase basis.

Goldsmith, E. B. (2005). *Personal finance.* Belmont, CA: Wadsworth/Thompson Learning.

This paper-bound college text provides strategies from the basics of using credit cards to the ins and outs of investing in the stock market. It is unique in the Personal Finance textbook field in that it includes an entire chapter devoted to the intangible costs and sacrifices involved in caring for others.

Goldsmith, E. B. (2005). *Resource management for individuals and families* (3rd ed.). Belmont, CA: Wadsworth/Thompson Learning.

This is a college level textbook designed to introduce students to the best of management thinking and practice. Part I begins with an explanation of management and the process of using resources to achieve goals. Part II examines the basic concepts underlying the

field of management. Part III provides specific application to time, work, family, stress, fatigue, environmental resources, and finances in a "how-to" section.

Kopoor, J. R., Dlabay, L. R., & Hughes, R. J. (2006). *Focus on personal finance.* Boston: McGraw Hill/Irwin.

This college level textbook introduces students to a management process model first used to address three questions: What is management? Why manage? Who manages? It continues with a focus on the home and environment as a context within which individuals and families manage, apart from the other areas in social science. It includes an examination of the basic concepts underlying the field of management, and then provides applications for time, work, family, stress and fatigue, environmental resources, and finances. It concludes with an analysis of technology, quality of life and family, and global change.

Vitt, L., Reichbach, G., Kent, J., & Siegenthaler, J. (2005). *Personal finance and the rush to competence: Financial literacy in the U.S.* Middleburg, VA: Institute for Socio-Financial Studies. Retrieved May 9, 2006, from http://www.aarp.org/special_static/usukpensionsdialogue/conf_papers/remarks/05_LVittppt.pdf

This national field study was commissioned and supported by the Fannie Mae Foundation, Institute for Socio-Financial Studies, Middleburg, VA.

Wehlage, N. (1997). *Goals for living: Managing your resources,* Tinley Park, IL: Goodheart-Willcox.

This is a secondary level text useful for teaching life management concepts in the secondary school.

Brief Annotated List of Electronic Resources

Take Charge America

Web Link: http://www.takechargeamerica.org/

Take Charge America is a non-profit financial counseling and debt management service. It sponsors a personal finance case study competition among college teams annually. Following an introduction, the teams have 36 hours to analyze the case and prepare a verbal, written, and PowerPoint presentation for a panel of judges who determine the winner. Cash prizes are awarded to the students' university departments.

Family Finance and Economic Education (FEFE)

Web Link: http://www.familyfinance.montana.edu/

FEFE's mission is to provide educators with complimentary curriculum materials and the skills and confidence to effectively teach family economics and finance. Educators participate in a free weeklong Master Teacher Program to facilitate using the curriculum materials in the secondary classroom.

National Endowment for Financial Education (NEFE)

Web Link: http://www.nefe.org/

NEFE is a non-profit foundation dedicated to helping all Americans acquire the information and gain the skills necessary to take control of their personal finances by providing funding, as well as the logistical support and financial planning expertise

needed to create personal finance programs and materials for the public. They maintain two Web sites for this purpose.

Get Smart About Your Money

Web Link: http://www.smartaboutmoney.org/nefe/pages/home.asp

This NEFE sponsored Web site has the general public as the target audience. The Web site includes links for financial planning, managing credit and debt, saving, investing, and retirement.

Youth Helping Youth

Web Link: http://www.ntrbonline.org/english/index.html

This is a Web site targeted to teens using the NEFE High School Financial Planning Program to provide them with a greater understanding of and ability to manage their personal finances in the areas of goal setting, budgeting, and saving. The program uses unique games, simulations, case studies, and interactive exercises to provide hands-on experience for students to test and apply the financial principles and concepts taught.

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Citation

Pickard, M. J., & Reichelt, S. A. (2008). Consumer economics and family resources: Internet delivery of consumer economics and family resource management courses. *Journal of Family and Consumer Sciences Education, 26*(National Teacher Standards 2), 1-13. Available at http://www.natefacs.org/JFCSE/v26Standards2/v26Standards2Pickard.pdf

Nutrition, Food, and Wellness: Current Benchmarks, Trends, and Challenges in an Ever Changing Environment

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This article encourages family and consumer sciences teacher educators and their nutrition colleagues to challenge pre-service and in-service family and consumer sciences teachers to become familiar with current nutrition knowledge and to build their confidence to meet Standard 4: Nutrition, Food, and Wellness. Family and consumer sciences teacher educators are encouraged to promote better nutrition by emphasizing the importance of teaching nutrition using a variety of techniques to motivate student learning in this critical area. This article provides teacher educators and nutrition faculty with suggested methods, as well as references for current nutrition knowledge, to encourage family and consumer sciences teachers to achieve Standard 4 in both curriculum design and application in their classrooms.

When family and consumer sciences teacher educators prepare students to become family and consumer sciences pre-service or in-service teachers, they must address many content areas in their curriculum. One critical content area is nutrition, food, and wellness. The plethora of issues associated with Standard 4 (e.g., obesity, global food shortages, need for sustainable practices, ethical concerns associated with bioengineered foods), makes it imperative that family and consumer sciences teachers have current knowledge and the ability to teach their students about the impact these issues have on our society, both locally and globally. Family and consumer sciences teacher educators are positioned at the forefront of change where they can successfully provide their students, family and consumer sciences teachers, with an understanding of *why* people need to make healthier food and activity choices and *how* to make practical, healthy changes in their diets and daily routines. Remaining at the top of the learning curve, however, is difficult as new research often contradicts previous information. The aim of this article is to provide family and consumer sciences teacher educators (defined throughout this article to include their nutrition colleagues) with suggestions for how to meet Standard 4: Nutrition, Food, and Wellness. Included are specific examples of hands-on activities to reinforce the importance of family and consumer sciences teachers using stimulating teaching methods to teach nutrition, food, and wellness concepts.

Standard 4: Nutrition, Food, and Wellness

The description of the fourth item in the *National Standards for Family and Consumer Sciences Teachers* (NATEFACS, 2004) is to "Promote nutrition, food, and wellness practices that enhance individual and family well being across the lifespan and address related concerns in a global society." The family and consumer sciences teacher educator who successfully implements Standard 4 should accomplish the following four expectation statements, developed by NATEFACS (2005, p. 2), within the curriculum:

1. Evaluate nutrition and wellness choices and practices to enhance individual and family well being across the lifespan, using reliable guidelines and sources of information;
2. Synthesize principles of food acquisition, handling, preparation, and service to meet long term nutrition needs and preferences of individuals, families, and communities;
3. Evaluate impacts of science, technology, and technological advances on wellness, nutrition, foods, and related issues (e.g., enriched foods, modified foods, food additives, emerging science of functional foods); and
4. Assess governmental, economic, geographic, and technological influences on nutrition and food practices, food availability, and related issues in a global society.

Nutrition and Wellness Choices

The first expectation related to Standard 4: Nutrition, Food, and Wellness states that family and consumer sciences teachers and ultimately their students should be able to "evaluate nutrition and wellness choices and practices to enhance individual and family well being across the lifespan, using reliable guidelines and sources of information" (NATEFACS, 2005, p. 2). Family and consumer sciences teacher educators can include a variety of assignments in their classes to help teachers identify teaching methods and design activities to meet objectives derived from this expectation. For example, the family and consumer sciences teacher educator can assign future teachers to develop a time-specific (e.g., two week) unit and set of lesson plans for a middle school classroom that focus on student-directed activities to increase learning. Such student-directed activities may include evaluating food choices for themselves and for one other person in their family. A variety of resources exist to help teachers bring the most current nutrition, food, and wellness information into the classroom and to teach consumers how to make smarter food choices from within each food group. Teacher educators should ensure their future teachers are familiar with the three resources which are described briefly in the following paragraphs: (a) Dietary Guidelines for Americans (Dietary Guidelines Advisory Committee [DGAC], 2005), (b) MyPyramid, and (c) Nutrition Facts Labels.

Dietary Guidelines for Americans

Poor diets and a sedentary lifestyle remain the major causes of morbidity and mortality in the United States (DGAC, 2005). Childhood obesity is on the rise and there is no indication that the trend is reversing (Carson, 2005). The *Dietary Guidelines for Americans* (DGAC, 2005), published jointly by the Department of Health and Human Services (HHS) and the Department of Agriculture and updated every five years since 1980, provide science-based advice to promote health and to reduce risk for major chronic diseases through diet and physical activity for people two years of age and older. The 80-page 2005 revision of the *Dietary Guidelines* can be downloaded at http://www.healthierus.gov/dietaryguidelines/.

In general, the *Dietary Guidelines* encourage consumers to eat a variety of nutrient-dense foods and beverages while choosing foods that limit the intake of saturated and trans fats, cholesterol, added sugars, salt, and alcohol. Specific dietary recommendations include (a) making sure at least half of the grain products eaten are whole grain, (b) eating at least two cups of fruit and two and one half cups of vegetables per day, and (c) drinking three cups of fat-free or low-fat milk or equivalent milk products per day while concomitantly (d) reducing total fat intake to between 20% to 35% of calories, (e) consuming less than 10% of calories from saturated fat, and (f) keeping trans fatty acid intake as close to zero as possible (DGAC, 2005).

The *Dietary Guidelines* also make several key recommendations related to weight management and physical activity. To reduce the risk of chronic disease in adulthood, the *Guidelines* encourage adults to engage in at least 30 minutes of moderate-intensity physical activity at least five days per week; children and adolescents are encouraged to engage in at least 60 minutes of physical activity on most, preferably all, days of the week (DGAC, 2005).

Family and consumer sciences teacher educators should become acquainted with the *Dietary Guidelines for Americans'* companion text, *A Healthier You*. This text contains easy, healthy, tested recipes; helpful websites; reproducible worksheets; helpful tips for using the Nutrition Facts label and eating out; and steps for incorporating physical activity into one's life. This resource can be ordered at http://www.health.gov/dietaryguidelines/dga2005/healthieryou/.

MyPyramid

The latest version of the food guide pyramid, MyPyramid, was published in April of 2005 (USDA, 2005a). A modified version adapted for children ages 6 to 11 years was released later in the same year (USDA, 2005b). The MyPyramid eating patterns are designed to integrate the *Dietary Guidelines* recommendations into a healthy way to eat for most individuals. The individualized eating patterns in *MyPyramid* are constructed across a range of calorie levels to meet the needs of most age and gender groups. Detailed information can be retrieved online at http://www.mypyramid.gov.

Both teacher educators and teachers are encouraged to become familiar with *MyPyramid Tracker*, an on-line computer program that provides an assessment of an individual's dietary intake and physical activity (USDA, 2005a). Teacher educators could require future teachers to complete the dietary analysis and analyze their diet by writing a paragraph that connects "what I should eat" with "what I do eat." Teacher educators may want to share with their future teachers an excellent source of PowerPoint presentations, handouts, posters, and activities covering a wide range of food, nutrition, and wellness topics available at http://lancaster.unl.edu/food/resources.shtml . These materials cover fun topics such as "Let's Play 'FOOD' Ball," "Spending Your Calorie Salary," "Meet the Grain Group," and "Cold Pizza for Breakfast: MyPyramid Food Safety Tips for Teens & Tweens Who Cook" (Henneman, 2006).

Nutrition Facts Labels

The Food and Drug Administration's (FDA) Nutrition Facts label makes it easier for consumers to make quick, informed food choices that contribute to a healthy diet (FDA, 2004). Teaching students how to use the Nutrition Facts panel, however, is challenging. Teacher educators are encouraged to inform future teachers about "Spot the Block!" (FDA, 2007). This new program, a joint effort between the FDA and several network television stations, was designed to urge middle-school students to look for the Nutrition Facts Label on food packages and to read and think about the Nutrition Facts before making food choices. "Spot the Block!" can be accessed at http://www.cfsan.fda.gov/~dms/spotov.html. A wealth of information about the Nutrition Facts panel, including lesson plans and fun, interactive quizzes, are found at http://www.cfsan.fda.gov/label.html .

Family and consumer sciences teachers could also be encouraged to adapt the kit *The New Food Label: There's Something In It For Everybody* (International Food Information Council, 1994) to teach their students how to use the food label. The complete program, including a 48-page teacher's guide with lesson plans, learner outcomes, learning strategies,

handouts, charts, worksheets, suggested activities, and a quiz with an answer key, can be downloaded at http://ific.org/publications/other/tnfl.cfm. While the fundamental premise and the student activities in this program are fine, teacher educators are cautioned that, in addition to the revision of the Food Guide Pyramid (USDA, 2005a), a major change has occurred on the Nutrition Facts panel. Effective January 1, 2006, the amount and percent of *trans* fat must be listed on the Nutrition Facts label (FDA, 2006). Current scientific evidence indicates the consumption of *trans* fat, along with saturated fat and dietary cholesterol, raises low-density lipoprotein (LDL) or "bad" cholesterol levels, which increases the risk of coronary heart disease, the leading cause of death in the United States (FDA, 2003a). Teacher educators are encouraged to ensure that future teachers understand what *trans* fat is and why it is important to limit it to as little as possible in the diet, so they can explain it in a meaningful way to their students. In addition, the importance of updating any nutrition label lessons created prior to January 2006 should be stressed. An updated, high-resolution Nutrition Facts food label panel can be downloaded at http://www.cfsan.fda.gov/~dms/label-dl.html.

Additional Nutrition Resources and Ideas

While family and consumer sciences teacher educators will encourage future teachers to ensure all students have a basic knowledge of nutrition, food, and wellness, the teacher's exact choices for classroom activities will be influenced by the needs and goals of the students in the class and resources available. For example, the teacher of a class of juniors and seniors will want to include activities such as those in the *Guide to Good Food: Teacher's Resource Guide*, for "Nutrition During Pregnancy and Lactation" and "Nutrition in Infancy and Early Childhood" (Bence, 2006, pp. 97-98). In addition, the "Diets in the Life Cycle" activity and the "Making a Weight Management Plan" in the *Guide to Good Food, Student Activity Guide* (Bence & Lazok, 2006, pp. 24, 30) require students to apply knowledge they found in the USDA MyPyramid, the Dietary Guidelines for Americans, and the food label analysis.

Bence (2006) included suggestions for activities related to physical activities, cultural influences on food choices, the food supply, food choices and practices, and legislation and regulations. For example, the teacher educator can model the concept of bringing "textbook" concepts to life by inviting guest speakers to talk about issues related to family and consumer sciences. A local nutritionist with the Women, Infants, and Children (WIC) program could be invited to talk about the incidence of childhood obesity, bottle-mouth syndrome, or iron-deficiency anemia in the city or county, giving future teachers an excellent opportunity to understand the connection between classroom knowledge and reality. Similarly, a local Cooperative Extension agent could talk to the future teachers about the Expanded Food and Nutrition Education Program (EFNEP), tying in concepts related to poverty, hunger, economics, and using the Dietary Guidelines, MyPyramid, and Nutrition Facts labels, in order to help families prepare healthy, affordable, nutritious meals.

Food Acquisition, Handling, Preparation, and Service

The second expectation of Standard 4: Nutrition, Food, and Wellness states that family and consumer sciences teachers, and ultimately their students, should be able to "synthesize principles of food acquisition, handling, preparation, and service to meet long-term nutrition needs and preferences of individuals, families, and communities" (NATEFACS, 2005, p. 2). Suggestions to help family and consumer sciences teacher educators explore relevant research

related to the following three specific content areas with their future teachers will be presented: (a) eating patterns, (b) threats to safety of the food supply, and (c) hunger and food security.

Eating Patterns

Family meals, although considered important for building relationships and communication skills between adolescents and parents (Fulkerson, Neumark-Sztainer, & Story, 2006), have been challenged by changes in our society, including increased after-school activities, changes in family structure, increased convenience food availability (Kimm et al., 2001) and more eating outside the home (USDA, 2005a). Family meals can provide an opportunity for a pleasant, cooperative time where entertaining conversation and healthy food choices accompany the opportunity to develop strong parent-child relationships and family connectedness. Teacher educators could encourage future teachers to use family and child development classes to reinforce the importance of families being together and having time to talk on a regular basis, emphasizing the important role of family meals to both family dynamics and family nutrition and wellness. Teacher educators are encouraged to demonstrate how the teachers can use a "role play" to model entertaining dinner table conversation, since not all youth have experienced this at home.

As children grow older, they spend less time with the family and eat more meals away from the home. Teens cite reasons such as a desire for autonomy, conflicting schedules, a dislike of the food served, and dissatisfaction with family relations, while parents cite conflicting schedules and being busy (Child Trends Data Bank, 2006). In 2003, less than half (42%) of adolescents ages 12 to 17 ate a meal as a family six to seven days a week, 27% ate a meal as a family four to five days a week, and approximately one third (31%) ate meals as a family from zero to three days a week (Child Trends Data Bank). Adolescents whose parents have less than a high school degree are more likely than those with parents who have a high school degree or more to eat meals six to seven days a week with their family (61% versus 46% and 39%, respectively, in 2003) (Child Trends Data Bank).

Eating with parents is also an important factor for the nutrition and eating habits of adolescents, with research showing that family meals and parental presence at meals is associated with higher intake of fruits, vegetables, and dairy products (Videon & Manning, 2003) In addition, family mealtimes may influence whether an adolescent develops disordered eating. One study found adolescents who reported frequent and structured family meals and a more positive atmosphere at family meals were less likely to have disordered eating habits, with the association being stronger for girls (Neumark-Sztainer, Wall, Story, & Fulkerson, 2004).

Families who learn to cook healthful and quick meals have been shown to increase their opportunities for greater nutritional intake (Fulkerson et al., 2006). In contrast, families who watch television during mealtimes have been found to have a lower consumption of fruits and vegetables and a higher consumption of calorie-dense foods such as pizzas, snack foods, and sodas (Coon, Goldberg, Rogers, & Tucker, 2001). The association between frequency of eating dinner with family and measures of diet quality was studied in a national convenience sample of 16,202 children who were 9 to 14 years of age. Subjects were children of the participants in the Nurses Health Study II. Results indicated an increased frequency of family dinners was associated with substantially higher intakes of fiber, calcium, folate, iron, vitamins B6, B12, C, and E, a lower glycemic load, and lower intakes of saturated and trans fat as a percentage of energy (Gillman et al., 2000). The frequency of eating family dinner also has been found to be inversely associated with the prevalence of overweight among 14,431 children aged 9 to 14

years. Children who ate family dinner “on most days” and “every day” were significantly less likely to be overweight than children who ate family dinner “never” or “some days” (Taveras et al., 2005).

Larson, Story, Eisenberg, and Neumark-Sztainer (2006) assessed adolescent involvement in preparing and shopping for food to determine if the level of involvement was related to diet quality. Results indicated the majority of adolescents reported helping prepare dinner (68.6%) and nearly half reported shopping for groceries (49.8%) at least once during the past week. Frequency of preparing food was related to lower intakes of fat ($p < 0.01$) and higher intakes of fruits and vegetables, fiber, folate, and vitamin A among all adolescents, lower intakes of carbonated beverages among female adolescents ($p < 0.01$), and lower intakes of fried foods among male adolescents ($p < 0.01$). The researchers concluded adolescents should be encouraged to help with meal preparation and/or enroll in basic food preparation classes or programs that teach skills for cooking and making healthful purchasing decisions. Unfortunately in many of today's households, the number of sit-down family meals and the time spent in the kitchen preparing food as a family is dwindling, and so are the food preparation skills of today's youth. If families do not model appropriate food preparation techniques to their children (e.g., how to prepare foods, what to prepare, when to prepare each meal component so everything is ready at one time), then family and consumer sciences teachers must ensure we teach fundamental food preparation skills to our students. To achieve this objective, teacher educators should encourage their future teachers to consider developing lessons that require students to prepare simple foods or meals at home that are verified by a parent or guardian signature. Lastly, teacher educators should make certain all future teachers know these key research findings and can cite them when needed to support the need for their foods program.

Threats to the Safety of the Food Supply

The events of September 11, 2001, heightened the nation's awareness and placed a renewed focus on ensuring the protection of the nation's critical infrastructures, including our food and water supply. The Food and Drug Administration (FDA) has delineated a plan to ensure the safety and security of the food supply (FDA, 2003b).

The U.S. food supply is increasingly characterized by centralized production and wide distribution of products, making a deliberate contamination possible (Sobel, Khan, & Swerdlow, 2002). A terrorist attack on the food supply could present itself in a manner similar to an unintentional food borne disease outbreak occurring over a wide geographical area. Depending on the biological agent and type of food contaminated, the attack could slowly become evident with only a few cases initially or as an explosive epidemic suddenly producing many illnesses (Sobel et al., 2002). One of the most likely scenarios that poses the greatest threat to the food supply is the release of botulinum toxin in cold drinks such as milk (Danzig, 2003), resulting in the potential poisoning and death of several hundred thousand individuals (Wein & Liu, 2005). Family and consumer sciences teacher educators should make sure their future teachers are aware of the potential catastrophic events that could occur if local, state, and federal officials do not work in concert to protect our food supply.

In order to emphasize the potential for contamination during handling, storage, preparation, serving, and consumption, teacher educators may invite the county “serve-safe” food handler’s certifying agent to speak to the future teachers about the local efforts that have been taken to comply with the federal law that requires restaurants to have at least one employee who meets the requirements necessary to assure they serve safe food. By using this approach, the

teachers will become aware of who the “serve-safe” certifying agent is in their county and what the “serve-safe” program is doing to protect the food supply.

To provide further emphasis on food safety, teacher educators may require their future teachers to search the web for additional information about food borne illnesses. The teacher educator might provide a list of actual food borne illness outbreaks. During the research process, the teachers could identify when and how the contamination occurred (e.g., during initial handling, storage, preparation, serving, or at consumption) and identify how the contamination could have been avoided. The “Say No to Dangers in the Kitchen” transparency and the “Poison Treatment” activity in the *Guide to Good Food, Teacher’s Resource Guide* (Bence, 2006, pp. 128-129) would reinforce the importance of safe food selection and handling practices throughout the cycle from selection to consumption. The teacher educator could invite a state or county food inspector, typically housed in the local or state health department, to discuss the processes involved in restaurant inspections and how a food borne outbreak is investigated.

Hunger and Food Security

The presentation of principles related to food acquisition, handling, and preparation must rightfully contain issues related to food insecurity and hunger, both within the United States and throughout the world. Food security is a term used to describe “assured access at all times to enough food for an active, healthy life, with no need for recourse to emergency food sources or other extraordinary coping behaviors to meet basic food needs” (Food Research and Action Center [FRAC], 2007, n.p.). Food insecurity, in contrast, refers to the “lack of access to enough food to fully meet basic needs at all times due to lack of financial resources” (FRAC, n.p.) or a “limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain availability of acceptable foods in socially acceptable ways” (Anderson, 1990, p. 1598).

Hunger is defined as “the uneasy or painful sensation caused by lack of food” (FRAC, 2007, n.p.). The U.S. Department of Agriculture (USDA) reported that in 2006, based on a national U.S. Census Bureau survey of households representative of the U.S. population, 10.9% of the 12.6 million U.S. households were "food insecure." Of these, 4.6 million were classified as "hungry" or “very low food secure” (Nord, Andrews, & Carlson, 2007). Groups particularly vulnerable to food insecurity and hunger include immigrants and their children (Van Hook & Balistreri, 2006), older adults (Frongillo & Horan, 2004; Hall & Brown, 2005), WIC recipients (Andig, Osborn, & Gorman, 2006), and households receiving food from emergency food providers, such as food pantries and soup kitchens (Kim, Ohis, & Cohen, 2001).

Results from the Panel Study of Income Dynamics (PSID) were examined to determine the prevalence of and persistence in food security between 1997 and 1999 among families with children under age 13 years (Hoffert, 2005). Key findings included: (a) food stamps play a positive role in preventing food insecurity, (b) immigrants were more likely to become food insecure than non-immigrants, (c) food insecurity is persistent, (d) families with young children are more at risk than families with older children, (e) families with younger heads are more vulnerable than families with older heads, (f) families with less educated heads (less than 12 years of school) were highly likely to become food insecure and to remain food insecure, (g) large families (with three or more children) were more likely to become food insecure than smaller families, and (h) low-income families (below 185% of poverty) were likely to be and remain food insecure.

On a global basis, the Food and Agriculture Organization has reported more than 840 million people (one out of every 13 people) do not have enough to eat (Food Insecurity and

Vulnerability Information and Mapping Systems [FIVIMS], 2006) and over half of deaths world wide are associated with malnutrition (Pelletier, Frongillo, Schroeder, & Habicht, 1995). Within families, the youngest are most vulnerable to malnourishment (World Bank, 1997). A position paper of the American Dietetic Association (ADA) summarized the need for balancing people, food, and the environment within a global perspective (ADA, 2003).

Family and consumer sciences teacher educators can help future teachers be ready to address hunger with their students. Requiring a service learning experience at a local food pantry or soup kitchen is one simple way to open students' eyes to what has become too many people's reality. Participation in a "hunger banquet" lets students learn about hunger from the points of view of those who experience it every day. Oxfam (2006) has a 10-minute computer simulation of a hunger banquet (http://www.hungerbanquet.org/) and the Evangelical Lutheran Church of America (ELCA) web site (http://www.elca.org/hunger/resources/youth.html) provides instructions for hunger simulation meals as well as a hunger Jeopardy game, a hunger quiz, and hunger dramas for youth (ELCA, 2006).

Impact of Technology on Nutrition and Food Practices

The third expectation of Standard 4: Nutrition, Food, and Wellness states that family and consumer sciences teachers, and ultimately their students, should be able to evaluate impacts of science, technology, and technological advances on wellness, nutrition, foods, and related issues (e.g., enriched foods, modified foods, food additives, and functional foods) (NATEFACS, 2005, p. 2). Science and technological advances have a great potential to enhance our food supply and improve health and overall quality of life, but only if both the benefits and costs of these advances are understood. Dramatic changes have impacted our food supply and our understanding of the complex relationship between food and health. Family and consumer sciences teacher educators should emphasize the impact of scientific and technological advances on nutrition, food, and wellness when preparing teachers who will be teaching advanced nutrition and/or foods courses in secondary or technical schools. This section will discuss three specific content areas: (a) biotechnology, (b) functional foods, and (c) fortified foods.

Biotechnology

The term "biotechnology" is a general umbrella term meaning any process that uses living things or organisms to accomplish a desired outcome (Penn State University, 2002). Crops produced through biotechnology are significant components of the U.S. harvest. Biotech crops are estimated to account for 38% of corn, 80% of soybeans, and 70% of cotton grown in the United States (International Food Information Council [IFIC], 2004). Benefits of biotechnology include greater disease resistance, reduced pesticide use, more nutritious composition of foods, herbicide tolerance, more rapid growth of crops, and improvements in taste and quality (IFIC). Benefits that can be expected in the near future include (a) reducing levels of natural toxins, such as allergens, in plants; (b) providing simpler and faster methods to locate pathogens, toxins, and contaminants to reduce risk of food borne illness; and (c) extending a product's freshness (IFIC).

The world's population, currently about six billion, is projected to grow to about nine billion by 2050. Biotechnological advances will be crucial to help avoid hunger and starvation worldwide in this century, as crops will be better able to withstand environmental factors (IFIC, 2004). Scientists are currently focusing on engineering food products that could increase crop production and maximize the healthy components in a variety of foods. Products estimated to be in the market in a few years include (a) enhanced protein quality in corn and soybeans; (b)

modification of acid production in potatoes and peas grown to remain sweeter and produce higher crop yields; (c) smaller, seedless melons for use as single servings; (d) bananas and pineapples with delayed ripening qualities; (e) peanuts with improved protein balance; (f) fungus-resistant bananas; (g) tomatoes with a higher antioxidant (lycopene) content; (h) fruits and vegetables containing higher levels of vitamins such as C and E to potentially protect against the risk of chronic diseases such as cancer and heart disease; (i) garlic cloves that produce more allicin to help lower cholesterol levels (IFIC); and (j) oils engineered to change the fatty acid composition so it does not have to be hydrogenated, resulting in the reduction of trans fatty acids in food products (Penn State University, 2002).

The World Health Organization noted that biotechnology is not without risk as some of these products have not been in the food supply previously (World Health Organization [WHO], 2006). However, WHO also pointed out that foods in international markets have passed safety assessments and are not likely to carry significant risk. Various regulatory groups have jurisdiction for monitoring development and testing of plant and animal products produced through biotechnology. Some of these groups include the Food and Drug Administration (FDA), U.S. Department of Agriculture (USDA), and the Environmental Protection Agency (EPA). The International Life Science Institute (ILSI) provides a database which shows comparisons of risk characteristics of conventionally bred crops and those bred/grown utilizing biotechnology. Some scientists believe the current safety review process used by the FDA is inadequate and are pushing for stricter guidelines and more detailed safety testing of genetically modified foods (Gurian-Sherman, 2003). This ethically-charged discussion will continue to be a topic all family and consumer sciences teacher educators and teachers should follow.

Functional Foods

Consumers have long sought the “perfect food” or the “magic bullet” which offers a promise of health and/or special benefits. One definition of functional foods is “foods that provide health benefits beyond basic nutrition” (International Life Sciences Institute [ILSI], 1999). Unmodified whole foods such as fruits and vegetables, as well as modified foods which have been fortified with nutrients or enhanced with phytochemicals or botanicals, fit this definition. Biotechnology, spurred by consumer demand, will continue to drive the development of new functional foods. Examples of functional foods that have strong evidence of providing the “promised” effect of reducing both total and low density lipoprotein (LDL) cholesterol include fortified margarines containing plant sterols and stanol esters, psyllium which contains a type of soluble fiber, soy protein foods, and whole wheat products containing glucans. Other examples of functional foods with at least moderate or weak evidence of various health benefits include green tea, black tea, spinach, tomatoes, cruciferous vegetables (e.g. cabbage, cauliflower, broccoli), fermented dairy products, tree nuts, and grape juice or red wine. The impact of functional foods and their bioactive component have been summarized in a recent position paper of the American Dietetic Association (ADA, 2004).

Fortified Foods

The American Dietetic Association (ADA) published a position paper on the use of fortified foods and/or supplements (ADA, 2005), one category was functional foods. The ADA promoted the consumption of a widely and wisely chosen variety of foods to promote optimal health and reduce the risk of chronic disease. The association acknowledged additional nutrients found in fortified foods and/or supplements can help some people meet their nutritional needs

utilizing standards such as the Dietary Reference Intakes. The ADA position paper provided coverage of several topics including (a) nutrient density, (b) rationale for consuming a variety of foods and beverages, (c) regulatory framework for supplementation and fortification, (d) nutrient bioavailability, (e) technical feasibility of fortification including sensory properties, (f) biotechnology, and (g) when supplementation is appropriate. Teacher educators are encouraged to become familiar with this document.

Teacher educators working with future teachers who have a major interest in nutrition and foods, or whose position may involve only the teaching of foods, can encourage the development of curriculum for an advanced course that may meet a science credit requirement for graduation. Such a course would have expectations that the secondary students not only learn advanced preparation techniques, but also learn about the application of biotechnology to foods, functional foods, and fortified foods.

External Influences on Nutrition and Food Practices

The fourth expectation of Standard 4: Nutrition, Food, and Wellness states that family and consumer sciences teachers, and ultimately their students, should be able to assess governmental, economic, geographic, and technological influences on nutrition and food practices, food availability, and related issues in a global society (NATEFACS, 2005, p. 2). This review will focus on three key areas: (a) integration of curriculum with school wellness policies, (b) economic and/or geographic influences on nutrition and food practices, and (c) sustainability of global resources.

Integration of Curriculum with School Wellness Policies

Family and consumer sciences educators have a tremendous opportunity to reinforce the relationship between nutrition, food, and wellness with the mandated school wellness policies. Section 204 of S.2507, the Child Nutrition and WIC Reauthorization Act of 2004, required all school districts with a federally-funded school meal program to develop and implement wellness policies that address nutrition and physical activity by the start of the 2006-2007 school year (Child Nutrition and WIC Reauthorization Act of 2004). Each school's wellness policy can be a wonderful tool for teachers to integrate nutrition, food, and wellness into their curriculum in a very practical and real way. To that end, teacher educators should ensure their future teachers are aware of the mandated school wellness policy. Every family and consumer sciences teacher should be encouraged to become a leader in efforts related to their school's wellness policy, working diligently to connect their curriculum with specific items included in their school's policy.

Learning is easier to achieve when principles of good nutrition and health can be reinforced with specific, concrete examples, and the school wellness policies include many examples. When trying to operationalize the concept "we need to eat more whole grains," teachers could have their students identify specific ways that goal is being met in their school (e.g., the cafeteria is serving whole grain tortillas, whole grain bread, and whole grain rolls; the vending machines include servings of whole grain cereals and cereal bars). The reinforcement of course concepts through concrete examples in the school wellness policy should ultimately enhance the adoption of a healthier lifestyle for a larger percentage of the population, beginning at an earlier age.

Economic and/or Geographic Influences on Nutrition and Food Practices

Many economic and geographic factors influence the foods, and thus the nutrients, individuals consume. Teacher educators should help their future teachers understand the synergistic relationships between economic resources, food availability, and family food choices and their impact on nutrient intake. For example, while affordable fresh fruits and vegetables might be readily available in most suburban grocery stores, small inner-city convenience stores often have an extremely limited availability of fresh foods at a significantly higher price than those found at a larger supermarket. Canned fruits and vegetables, while available at convenience stores, are bulky and heavy. Consequently, individuals who live in the inner city and lack reliable transportation often have a difficult time meeting their MyPyramid recommendation for fruits and vegetables – not from lack of knowledge about their importance, but because fresh fruits and vegetables are not available or affordable and bulky canned foods are hard to carry on a bus.

Another important factor influencing food selection, quality, and nutrient intake is the knowledge and skills of the food preparer. Teacher educators will want to emphasize the importance of including information about the selection, storage, preparation, and service of food as an important part of nutrition, food, and wellness. Teacher educators also should be encouraged to help future teachers better understand the multidimensional nature of food decisions. An exploration of food economics, time management, and assessing the nutrient quality of diets based on the use of the Food Guide Pyramid and the Nutrition Facts label become useful activities in the family and consumer sciences teacher's classroom. Practical assignments that compare time, cost, and nutrient value of "convenience foods" compared to "home made foods" should be encouraged. Teacher educators could incorporate an activity where the future teachers analyze the cost, taste, texture, and time to make instant oatmeal compared to "quick" oatmeal. Above all, teachers should emphasize the importance of having their students give careful attention to preserving major nutrients while preparing palatable, high-quality products with an appropriate appearance, texture, and flavor. By using clear examples, practical assignments, and fun demonstrations using foods from a variety of cultures, teachers will be able to reach their students and help them more clearly see the relationships between food science, geography, culture, food choices, and one's quality of life.

Sustainability of Global Resources

Sustainability of the earth's resources is a civic responsibility. Teaching students about actions that can be taken by individuals and families to foster sustainability is an appropriate activity for the family and consumer sciences teacher. Technological advances, food choices, and food handling all have an impact on the utilization of global resources, including energy, water, air, and management of solid waste. Issues abound related to resource consumption and generation of waste among developed countries in contrast to the scarcity of food and limited resources among developing nations (Rosegrant & Sombilla, 1997). Global population growth will have a major impact on environmental, economic, and social concerns related to the food system (Brown, Gardner, & Halwell, 1999). Biotechnology can help address the issue of food production and decrease the need for toxic pesticides.

Conservation of energy reduces the stress on the energy generation and distribution system while concomitantly saving money for individuals and families (Vann, Ahmadi, & Friesen, 2004). In addition, conservation of energy reduces the release of toxic air pollutants into the environment and the depletion of non-renewable resources, thus improving the quality of life

in the communities where individuals live and work in the present, and enhancing the availability of resources in the future. Family and consumer sciences teachers should be prepared to be key players in resource development and sustainability issues (Atiles & Cude, 2002). Teacher educators can help future teachers learn how to select the most energy efficient systems and, to the limits imposed by the system, how to operate the systems using the most energy-efficient behaviors possible. As Anderson (2003) so clearly stated, "Today's choices affect individual, family, and community well-being as well as our children's future" (p. iii). By teaching students to select energy-efficient systems and to adopt energy-conserving behaviors, teachers will have taken yet another step toward ensuring our future.

Summary

Promoting nutrition, food, and wellness practices that enhance individual and family well being across the lifespan and in a global society is complex and challenging. To achieve this standard will require a tremendous breadth of knowledge and current information. Family and consumer sciences teacher educators must enable future teachers to assume an integral role in this process. In addition to the suggestions for teacher educators throughout this article, the teacher educators should provide future teachers opportunities to become familiar with the use of texts and supplemental books that are rich with suggestions for such things as curriculum development through content sequencing, assessment techniques (with test creation software), and bulletin board ideas that can be used to enhance the teaching of this standard. Additional suggested resources for teacher educators to review with future teachers are identified in the Appendix.

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Appendix

Selected Classroom Teaching Activities to Reinforce Concepts Associated with Standard 4: Nutrition, Food, and Wellness

New food, nutrition, and wellness texts such as Largen and Bence's (2008) *Guide to Good Food*, with teacher and student supplements, correlate standards for nutrition and wellness with the content of the text. Family and consumer sciences educators will also find Largen and Bence's (2008) text and supplemental books rich with suggestions for such things as content sequencing, assessment techniques (with test creation software), and bulletin board ideas, to mention a few, that can be used to enhance the teaching of this standard. Other publishers have similar resources available. Student activities related to food, nutrition, and wellness careers are included in the *Guide to Good Food, Student Activity Guide,* "Career Activities," (Bence & Lazok, 2006, p. 37-42) and in Jackson's (2003) Teacher's Resource Guide to *Careers in Focus: Family and Consumer Sciences*. A variety of additional teaching ideas and resources to aid the family and consumer sciences teacher educator can be found in this Appendix.

Dietary Guidelines for Americans

1. Have students prepare a handout for their classmates about tips for eating out with the Dietary Guidelines. Use the tip sheet "Eating Out with the Guidelines" found at http://www.health.gov/dietaryguidelines/dga2005/toolkit/eatout.htm

MyPyramid

1. Translate Food into Exercise. If you have a chocolate chip cookie lab or a candy lab, have the students calculate how many minutes of exercise they will have to complete to burn the calories from the foodstuff they have made using the http://www.mypyramid.gov web site.

2. "Vote for Your Favorite Nutritious Meal" campaign. Students work in small groups to follow the food guide pyramid to develop a nutritious meal. The class holds an election. Students tally and graph the results. The winning menu is prepared by the class with the winning team members as guests.
3. Have students record their food and physical activity for three days. Enter the data in the MyPyramid Tracker at http://www.mypyramidtracker.gov/. Compare the results to recommendations of the Dietary Guidelines for Americans.

Nutrition Facts Labels

1. Read the labels as you shop and pay attention to serving size and servings per container. Compare the total calories in similar products and choose those items with the highest nutrient density.
2. Collect nutrition facts from local fast food restaurants. Which foods are lower in saturated fat, trans fat, and cholesterol? Is there a fast food restaurant you would recommend?
3. Compare the sugar and fiber content of various breakfast cereals and breakfast bars. Which cereals have the highest amount of fiber? The highest amount of sugar? Measure the sugar in your favorite breakfast cereal (5 grams of sugar = 1 tsp. sugar). Rank order the cereals in order by grams of fiber and by grams of sugar per serving.

Hunger and Food Security

1. Assign Oxfam America's "Hunger Banquet" at http://www.hungerbanquet.org/ . During this 10 minute on-line exercise, students role play various characters who represent individuals at various socioeconomic levels throughout the world. The purpose of the exercise is to help students understand the root causes of hunger (e.g., distribution of food, education, resources and power).
2. Take the hunger quiz http://www.hungerbanquet.org/page.php?id=hunger_quiz
3. Volunteer at a food pantry or soup kitchen.
4. Conduct a food drive for a food bank.
5. Plan menus for one day using the Thrifty Food Plan allotment (dollar value updated monthly at http://www.usda.gov/cnpp/using3.html). Resources can be found at http://riley.nal.usda.gov/nal_display/index.php?info_center=15&tax_level=3&tax_subject=275&topic_id=1336&level3_id=5221. Enlist students' families to follow a food budget for two weeks which reflects the current food stamp allocation.

Food Safety and Threats to Food Supply

1. Visit the web site for Kids, Teens, and Teachers http://www.foodsafety.gov. Have your students take the Food Safety Quiz.
2. Explore the web site "Countering Bioterrorism and Other Threats to the Food Supply" at http://www.foodsafety.gov/~fsg/bioterr.html. Have your students prepare a handout or brochure for a specified target audience describing tips for emergency preparedness.
3. Play "Lose a Million (Bacteria)," a fun, interactive game based on the popular TV game show, "Who wants to be a Millionaire." The game begins with a million bacteria. The object of the game is to lose bacteria. Access the game at http://www.cfsan.fda.gov/~cjm/million.html
4. Have your students explore various careers in the food safety field. The search can begin at http://www.cfsan.fda.gov/~dms/careers.html

Importance of Family Meals

1. Have students develop a week's menu that meet the minimum MyPyramid recommendations for each food group. Create a shopping list that corresponds to the menus. Encourage students to shop with a parent and assist in the meal preparation.
2. Visit Purdue University's Promoting Family Meals Web site. Share the annotated bibliography "Selected References: Family Meals" with the students: http://www.cfs.purdue.edu/cff/promotingfamilymeals/Meal_Time_References.pdf. Have students create a research-based brochure or handout to be shared with a local school, worksite, or church that encourages families to make time for each other.

Biotechnology and Functional Foods

1. Visit the Institute of Food Safety and Technology's web site at http://www.ifst.org/site/cms/contentChapterView.asp?chapter=1. Have students select a current issue and write a short report based on the IFST position paper.
2. Identify foods consumed that likely have had some form of biotechnology applied to the ingredients.
3. Have students review Nutrition Labeling and Education Act (NLEA) regarding health claims; examine products with health claims and compare to NLEA requirements.
4. Review the Dietary Supplement Health and Education Act, relative to functional foods and labeling.
5. Review advertising regulations in regard to health claims.
6. Visit a grocery store and examine the fruit flavored water with additional nutrients; note the product's cost compared to water; note nutrients added – where can these nutrients be obtained through other foods? How much of the flavored water can be consumed before the nutrient intake level becomes potentially toxic? Note labeling – for whom has the product been developed? Have students think of other products they could make that would have similar nutrition value or greater nutrition value.
7. Learn more about the viewpoints of the food manufacturers regarding genetic engineering by visiting the following websites:
   - National Food Processors Association: http://www.nfpa-food.org/science/biotech.html
   - Food Marketing Institute: http://www.fmi.org
   - International Food Information Council (IFIC): http://ificinfo.health.org
   - Grocery Manufacturers of America: http://www.gmabrands.com

Fortified Foods

1. Have students write about why the fortification of grain products with folic acid is a public health concern and how it could impact each local pregnancy.
2. Prepare a presentation on how and why the bioengineering and genetic modification of food products to optimize the food's nutrient profile (e. g., reduce fat, increase protein, extend shelf life) are important contributions of science and agriculture to our food supply and its nutritious quality.

School Wellness Policies

1. Include a guest speaker from the local School Wellness Committee who will discuss the goals and activities planned by the Committee and discuss how your class can get involved in the goals of this committee.

Sustainability of Global Resources

1. Visit a landfill; initiate a recycling program in school, community organization.
2. Conduct a waste audit in home, school, community building.
3. Prepare a report on environmental issues in developing countries related to food production (such as massive tree removal for farm fields).
4. Visit websites provided in American Dietetic Association position paper on conservation of natural resources.

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Citation

Friesen, C. A., Spangler, A. A., & McFadden, J. R. (2008). Nutrition, food, and wellness: Current benchmarks, trends, and challenges in an ever changing environment. *Journal of Family and Consumer Sciences Education, 26*(National Teacher Standards 2), 14-32. Available at http://www.natefacs.org/JFCSE/v26Standards2/v26Standards2Std4Friesen.pdf

Learning Environment: Creating and Implementing a Safe, Supportive Learning Environment

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In creating a learning environment, it is necessary to look at all factors that impact the development of students. The physical, intellectual, and emotional aspects of the environment must be considered. The physical characteristics of the room impact those who work within. Some of the characteristics are set and must be incorporated into the educator's plans. Other characteristics (such as furniture arrangement, displays, and accessories) can be changed and are at the discretion of the educator. The intellectual environment of the classroom includes the standards, expectations, objectives, learning strategies, and assessment that are expressed directly through the written curriculum and covertly through the hidden curriculum. Individual differences among students and teachers need to be recognized and addressed, including learning styles, abilities, interests, and patterns of intelligences (Gardner, 1999). The emotional environment of the classroom is comprised of feelings of safety, support, and respect. Management, discipline, and motivation are important aspects of the emotional environment. The cultural impact is also important to recognize. This includes diversity in social class, race, ethnicity, and gender (Woolfolk, 1998).

Introduction

Standard Seven of the *National Standards for Teachers of Family and Consumer Sciences* indicates that a beginning family and consumer sciences teacher should be able to demonstrate the ability to "create and implement a safe, supportive learning environment that shows sensitivity to diverse needs, values, and characteristics of students, families, and communities" (NATEFACS, 2004). In creating a learning environment, it is necessary to look at all factors that impact the development of students. The physical, intellectual, and emotional aspects of the environment must be considered. The environment of the classroom and the inhabitants of that environment (the students and the teachers) are constantly interacting and impacting each other, creating an ecological system. The characteristics of the classroom and the tasks and needs of the teachers and students all influence the classroom learning environment (Epanchin, Townsend, & Stoddard, 1994). It is also important to consider that students do not live in a vacuum. They are each impacted by their families and the community in which they live.

This article will explore the creation and implementation of a safe, supportive learning environment in terms of all three components: the physical, intellectual, and emotional environment. Examples of strategies for implementing all three aspects of Standard 7, Learning Environment will be presented. Connections to other standards, primarily Standard 5, Curriculum Development; Standard 6, Instructional Strategies and Resources and Standard 9, Student and Program Assessment are made. An annotated list of resources is also provided.

Learning Environment

Humans have certain basic needs beyond the physical needs of air, water, food, and shelter. Erwin (2004) identifies these needs as survival, love and belonging, power, freedom, and fun. Understanding these needs provides "a solid foundation for creating and managing a high-quality learning environment" (p. 19). Teachers, aware of these needs and working with them in mind, can create an environment where students feel safe and are free to learn, explore, and create. An environment that does not provide for the needs of students results in frustration for students and teachers, and an environment that does not promote learning.

The Physical Learning Environment: Research and Theory

In the classroom of the past, the teacher's desk, situated at the front of the room, faced orderly rows of students who sat at desk/chair combinations. These classrooms were designed to focus the students' attention on the teacher and encouraged minimum interaction among students. The room was expected to be orderly and very quiet. Should the principal hear noise or, even worse, laughter coming from the room, the teacher was taken to task. There has been a dramatic change in the classroom of today. Narum (2004) suggests that the learning environment needs to reflect the school's mission and should plan for an environment that encourages active engagement and a community of learning. The room needs to be versatile (one in which students can do many things) and flexible (easily adapted to changing needs). The importance of furniture, fixtures, and equipment in creating a positive learning environment was explored by Rydeen and Erickson (2002). They suggest that these elements of the environment can help create community, ownership, comfort, security, aesthetics, privacy, and a sense of place.

Education in the United States is moving from a "teacher as authority and purveyor of knowledge" mode to a more collaborative learning model. With this change, the physical environment of the classroom must reflect the collaborative model. Kelly (2004) presents classroom design that supports collaborative learning. Classrooms should provide a physical environment that brings students and teachers together to discuss content, exchange thoughts, communicate, and debate. There also needs to be workstations with resources and computer access for individual work, and areas for group work. Graetz and Goliber (2002) are very specific in their description of the ideal space for collaborative learning. The room should have a level floor, movable seats and tables, writing surfaces on a minimum of three walls, and controlled acoustics. Aspden and Helm (2004) recommends a blended approach when designing classrooms, providing a flexible environment for both technical and traditional approaches to education. The key to success is creating an environment that facilitates connections and engagement between students and other aspects of the learning experience. In this philosophy, effectiveness depends upon the active participation of all individuals involved in the education process.

When creating the physical environment to promote maximum learning, the elements of lighting, temperature, space, and noise must all be considered (Graetz & Goliber, 2002). Heat is known to aggravate feelings of hostility in humans. Therefore, keeping the classroom cool is recommended. Full-spectrum fluorescent lighting or daylight is also optimum. When considering space and noise, it is noteworthy that the ideal levels of both physical conditions are relative. The amount of space needed by the individual student is the "personal space" as defined by culture. In some instances, students with several feet of personal space may feel crowded. Other students may feel very comfortable with the same amount of space. The type of learning activity also impacts the amount of space and the level of noise that is comfortable to students. When

listening to and watching a presentation, students need more space and a low level of noise in the room. However, the same students, engaged in a group project and actively exploring and exchanging ideas, will be comfortable with less space and a higher level of noise in the classroom.

The process of creating a physical environment for learning must always consider the needs of mainstreamed students with physical disabilities. In the past, the focus has been on the students and their personal abilities, rather than the physical environment of the school (Hemmingson & Borell, 2002). Proactive planning can create an environment that reduces both physical and social barriers in educational settings.

Figure 1. **The Physical Learning Environment: Practical Application of Theory**

Physical Learning Environment	Suggested Techniques for Addressing the Issue
The classroom needs a design that supports collaborative learning.	1. Provide an area for display of students' work. 2. Carefully determine chair placement and seating assignments (Wong & Wong, 1998). 3. Arrange the classroom so that the resources needed for an activity are close to the learning area. 4. Develop procedures for the handing of equipment and supplies and communicate your expectations to the students.
The physical elements of light, space, temperature, and noise must be addressed.	1. Family and consumer sciences classrooms can appeal to all of the senses, including the sense of smell. For example, baking bread or apple pie on the day students sign up for next year's classes is guaranteed to increase enrollment! 2. Bring nature into the room. Plants and flowers add life to the room and can improve the air quality. However, remember that many people are sensitive to strong aromas, so stick to flowers with mild or no fragrance. 3. Music can set the tone for the class but needs to be carefully chosen (Gardner, 1999). 4. Should the teacher be unable to control all the physical elements of the room, providing students with interesting, meaningful learning experiences can help them focus on the task rather than the temperature, light, space, or of the room. noise
The classroom must address the physical needs of all students, including students with physical limitations.	1. Be aware of the standards for classroom accessibility and the needs of your students (Gorleski, 2006). 2. Make a plan for needed changes and present it to the school administration. Be prepared to write a grant, if necessary. 3. Be creative, often simple adaptations can be made to standard equipment to allow students with physical limitations to participate in classroom activities.

The Intellectual Learning Environment

The intellectual environment of the classroom includes the standards, expectations, objectives, learning strategies, and assessment that are expressed directly through the written curriculum and covertly through the hidden curriculum. Individual differences among students and teachers need to be recognized and addressed, including learning styles, abilities, interests, and intelligences (Gardner, 1999).

Cookson (2005) advises new teachers, "your classroom has a huge impact on your students' intellectual and emotional growth" (p. 10). The challenging environment, necessary for active learning and an enriched environment is based on four elements: problem solving, relevant

projects, critical thinking, and complex activities. These challenging learning experiences need to be the focal point of the classroom, and extend out of the classroom into the rest of the community (Oblinger, 2006).

Family and consumer sciences education national standards identified four process competencies. Thinking (including problem solving and critical thought) is identified as a key process competency to be taught in all family and consumer sciences courses. Critical thought is purposeful and systematic, and analyzes "explanations and arguments in order to identify premises and conclusions; to distinguish among opinion, reasoned judgment, and fact; and to recognize underlying assumptions, biases, and values" (National Association of State Administrators for Family and Consumer Sciences, 1998, p. 18). The other three process competencies taught in family and consumer sciences classrooms are leadership, management, and communication. The development of leadership skills provides an opportunity for students to develop a sense of autonomy. Stefanou, Perencevich, DiCintio, and Turner (2004) suggest that, in addition to classroom instruction and activities, teachers need to provide support to facilitate the development of student autonomy. The skills developed through opportunities for management and communication provides students with the practical experience necessary for problem-solving, thinking and leadership. Curriculum planning that includes these four competencies leads teachers to develop lessons and learning experiences that are problem-based, challenging, and support active learning.

Curriculum developed to challenge all students in the classroom must reflect the individual differences, cognitive styles, and learning preferences of every student. Gardner (1999) identifies nine intelligences possessed by people; each person has all nine intelligences, but at varying levels of ability and in different patterns. Other learning style theories include: whole-to-part/part-to-whole learners; visual versus auditory approaches; field-dependent/field-independent learners; and impulsive/reflective cognitive styles (Kearsley, 2006).

Wolfolk (1998) prefers the use of the term "learning preferences" over "learning styles" and after a study of many different preferences, has identified one theme that unites most of the various styles – a difference between deep and surface approaches to processing information in learning situations. Students who have a deep-processing approach to learning search for underlying concepts or meaning, and tend to learn for the sake of learning. In contrast, students who take the surface-processing approach will focus on memorizing facts rather than understanding them. These students are motivated by grades and other external rewards.

It is a daunting task to prepare curriculum and lesson plans that consider the learning styles and preferences of every student in the class. It may be more important to remember two things. First, even though students may have preferences for specific ways of learning, they may not choose the way that is most effective. Students, particularly those who struggle with learning, may opt for the easiest style rather than the one that would challenge them and help them grow and learn. Second, lessons that are planned with a variety of learning strategies to teach a concept will, over a period of time, reach all the students in the classroom. Keeping students engaged in active, meaningful learning with a variety of approaches will help ensure that all students are given the opportunity and encouragement to learn (Woolfolk, 1998).

Figure 2. **The Intellectual Learning Environment: Practical Application of the Theory**

Intellectual Learning Environment	Suggested Techniques for Addressing the Issue
A stimulating learning environment teaches the students to think.	1. Questions are the key to stimulating thought in students and need to be carefully planned with the students' needs and the teacher's objectives in mind (Kobrin, 2004). 2. Questions that stimulate thinking often ask the students to sort, classify, differentiate, explain, imagine, solve, or brainstorm (Harmin, 1994). 3. Problem-solving is encouraged with the use of scenarios and case studies, and can help the students transfer the concept from the classroom to their personal lives. 4. Discussions can help the students think, identify personal beliefs and values, and communicate with others. It is important to structure the discussion to proceed in the direction desired and to give all students the opportunity to participate. Suggested strategies to promote equal participation include: "Whip Around – Pass Option" (the teacher asks a question and goes around the room, giving each student the opportunity to share an idea or pass); "Question, All Write" (the teacher asks a question, then provides the students with the time to write their ideas – this is an excellent technique for starting a class and introducing the day's topic); "Outcome Sentences" (following a discussion or presentation of material, students are asked open-ended questions on which they may reflect and write); "Voting" (students are asked to vote, using raised hands, thumbs-up/thumbs-down, or voting cards); "Sharing Pairs" (students are paired and given time to share their ideas with a classmate, a particularly effective technique to use with shy students) (Harmin, 1994). 5. Graphic organizers (mind-maps, diagrams, t-charts, etc.) can help students connect ideas and concepts, organize them visually, and develop meaning.
Teaching strategies should reflect a variety of approaches, determined by the needs of the students and the concept being taught.	1. Using a variety of teaching strategies brings interest to the lesson and reflects respect for students' different learning preferences. 2. Contracts, individualized instruction, and collaborative learning provide for successful learning by all students. 3. Assessment strategies should provide an opportunity for all students to demonstrate what they have learned in the classroom. A variety of techniques may be needed in order to meet that goal. 4. The curriculum, including learning objectives, teaching strategies, student engagement, and assessment must focus on the needs of the students and the concept being taught.

The Emotional Learning Environment

The emotional environment of the classroom is comprised of feelings of safety, support, and respect. Management, discipline, and motivation are important aspects of the emotional environment. The cultural impact is also important to recognize. This includes diversity in social class, race, ethnicity, and gender (Woolfolk, 1998).

The role of emotions in learning is rooted in the physical composition of the brain itself. The portion of the brain that regulates emotion and memory is the limbic system, located between the R-complex (consisting largely of the brain stem, the portion of brain concerned primarily with physical survival) and the neocortex (or "thinking brain"). Because of its location and function, the limbic system has a primary role in determining what is learned and remembered (Caine & Caine, 1994; Sylwester, 1995). The limbic system can help the brain associate events with emotions. If the emotions are pleasant, or provide a manageable level of stress, the students place the facts associated with the events in long-term memory storage. If the

level of stress is not manageable, or the brain perceives the situation as a threat, the brain will "downshift," shutting down the neocortex and reverting to the use of the R-complex for survival. The R-complex is not the thinking portion of the brain, and the students will not learn.

For example, people can normally recall what they did on their previous birthday, or Christmas Day, or the first day of school. Most people recall what they were doing when they heard of the attacks on the World Trade Center on September 11, 2001. These events are associated with emotions, stimulate the limbic system, and are placed into long-term memory storage. Inversely, few people can remember what they ate for dinner two weeks ago, what happened the week before their birthday, or what they were doing on the third day of the Winter Olympics in Salt Lake City. These events were not associated with strong emotions (unless you were participating in Olympic Alpine Skiing), and were not placed into long-term memory. Under high levels of stress, caused by such things as physical threats, hunger, abuse, unrealistic expectations, and grief, a human being does not learn. The mind shuts down to focus on survival. Emotions play a key role in the physical process of learning and must be included in the creation of the learning environment.

Morris (2004) discusses the impact of brain research on the design of lessons, particularly the significance of the stimulation of good emotional responses to the retention of information by students. Rock (2004) takes the role of emotion in the classroom one step further, suggesting that educators need to teach students the skills, abilities, and knowledge that lead to the development of emotional competency. VanDeWeghe (2006) addresses the importance of student engagement in the process of learning, and divides "engagement" into three types: behavioral, cognitive, and emotional.

In order for students to participate fully in the educational process, they must feel safe. Beyond physical safety, the students need to feel that unique, individual differences are accepted and respected. These differences include diversity in social class, race, ethnicity, and gender. The feeling of safety should be reflected in both teacher-to-student and student-to-student interactions (Canter & Associates, 1998).

Wolfolk (1998) identifies five aspects of education designed to address the needs of a diverse population. The first, and most familiar, is the need for content integration in which the teacher uses examples and content from a variety of cultures and groups. The second is the knowledge construction process that helps students understand how cultural assumptions within a content area influence how knowledge is constructed within that culture. Third, diversity education should reduce prejudice by identifying characteristics of students' racial attitudes and exploring how teaching techniques can modify these attitudes. The fourth aspect of diversity education is an examination of the school culture and the group and labeling practices, extracurricular participation, and staff-student interactions. The goal of this process is the development of an empowering school culture that respects and enhances every student. The final aspect of diversity education is a pedagogy that promotes equity among students. Teachers need to match teaching styles to students' learning styles, creating a classroom environment in which all students can learn.

Figure 3. **The Emotional Learning Environment: Practical Application of the Theory**

Emotional Learning Environment	Suggested Techniques for Addressing the Issue
Students must feel safe within the learning environment.	1. Clearly present the classroom expectations and rules. 2. Plan a variety of "getting-to-know-you" activities for the beginning of the course to foster a sense of community within the classroom. 3. Establish an atmosphere of trust between students and the teacher. As often as possible, use the students' names. Respond positively to students' ideas. Pay attention to students' moods. Focus on student's strengths and positive qualities. Provide positive feedback, to the students, and to the students' parents. Respect the students' right to try new approaches, and to fail (Canter & Associates, 1998). 4. It is equally important to develop student-to-student trust. Model the belief that all students have the right to learn in a safe, peaceful classroom. Every student has the right to express ideas and opinions. Each student can contribute by showing respect and consideration for others. 5. Create a time for a community circle where students can discuss issues of importance to the group. Students can ask questions and raise issues to the group, or the teacher can provide a container where students can place anonymous notes throughout the day. 6. Use mistakes as a springboard for learning and risk-taking. Errors made in the laboratory setting are perfect examples to use for creative problem solving. Reassure students that mistakes often teach much more than perfection. 7. Make time for classroom celebrations. Create a bulletin board that displays individual and group successes. 8. Capture collective memories by taking and displaying pictures of activities, projects, and students' work.
Students must feel that their individual differences are respected.	1. Plan opportunities for students to share experiences and values. Always thank students for sharing. 2. Curricular materials, displays, and art work in the room should depict a variety of individuals, examples, and values that respect diversity among people. 3. Help students develop empathy by asking questions and making statements that encourage students to see things from others' perspectives. 4. One should not confuse meaningless positive reinforcement with honest praise. The students know the difference.
Teachers must provide for personal emotional support.	1. Participate in a support group of other teachers with a similar amount of experience. 2. Find a mentor. 3. Journal. 4. Participate in professional development activities. 5. Appreciate and reaffirm yourself (Hodges, 2002).

Integration of the Classroom Environment with the Other *National Standards for Teachers of Family and Consumer Sciences*

The *National Standards for Teachers of Family and Consumer Sciences* are integrative in nature. Teaching the standards that address family and consumer sciences content is dependent upon the established learning environment. The learning environment, created by the teacher, provides the backdrop for all of the instruction. A rich, vibrant culture of learning, established in an environment that provides for the physical, intellectual, and emotional need of the students, enables the students and teacher to focus on the content; its meaning in individual lives; and the use of that content in solving problems of individuals, families, and communities. It is through

the choice of curriculum, instructional strategies, and assessment that the learning environment of the classroom is established.

Learning Environment Assessment

Danielson (1996) has developed rubrics for the assessment of the components of teaching. Four domains are presented, including domain two: the classroom environment. The importance of creating a positive learning environment of respect and rapport is explained:

> Teachers create an environment of respect and rapport in their classrooms by the ways they interact with students and by the interaction they encourage and cultivate among students. In a respectful environment, *all* students feel valued and safe. They know they will be treated with dignity, even when they take intellectual risks. High levels of respect and rapport are sometimes characterized by friendliness and openness, and frequently by humor, but never by a teacher forgetting her role as an adult. (p. 79)

Five components of classroom environment are identified and described by Danielson (1996): (a) creating an environment of respect and rapport; (b) establishing a culture of learning; (c)managing classroom procedures; (d) managing student behavior; and (e) organizing physical space. Each of these components is further broken down into specific elements, with detailed descriptions of observable characteristics that describe unsatisfactory, basic, proficient, and distinguished performance levels. Figure 4 is an example of one element included in the organizing of physical space.

Figure 4.

Element	Level of Performance			
	Unsatisfactory	Basic	Proficient	Distinguished
Accessibility to Learning and Use of Physical Resources	Teacher uses physical resources poorly, or learning is not accessible to some students.	Teacher uses physical resources adequately, and at least essential learning is accessible to all students.	Teacher uses physical resources skillfully, and all learning is equally accessible to all students.	Both teacher and students use physical resources optimally, and students ensure that all learning is equally accessible to all students.

Quoted from: Danielson, 1996, p. 89

It is noteworthy that beginning teachers would be expected to perform at the “basic” level, occasionally demonstrating “proficient” skills. Only master teachers would be expected to perform at the “distinguished” level. However, providing new teachers with a rubric that describes graduated performance levels, helps them set goals and envision the behaviors that would allow them to attain those goals.

Certainly, Danielson’s rubric is not the only tool for assessing the learning environment created by a new teacher. Teachers, departments, school systems, and individual states are encouraged to create or adapt an assessment tool that meets individual needs; however, it is reassuring to know that one does not have to begin the daunting task from scratch. Danielson’s work is an effective, useful beginning for the assessment process.

Suggested Readings

Following is a list of suggested readings for teachers interested in exploring the topic of learning environments. Many of the books include very practical suggestions and activities designed to improve the classroom environment.

Canter, & Associates (Eds.). (1998). *First-class teacher: Success strategies for new teachers.* Santa Monica, CA: Canter & Associates, Inc.
Provides practical suggestions for new teachers, focusing on ideas that organize and encourage the novice, while promoting success.

Danielson, C. (1996). *Enhancing professional practice: A framework for teaching.* Alexandria, VA: Association for Supervision and Curriculum Development.
Provides complete discussions and rubrics for the assessment of the four components of professional practice.

Erwin, J. C. (2004). *The classroom of choice: Giving students what they need and getting what you want.* Alexandria, VA: Association for Supervision and Curriculum Development.
Practical application of choice theory in the classroom. Many effective strategies are presented.

Hodges, D. (2002). *Looking forward to Monday morning.* San Diego, CA: Threshold Publications.
Presents a wide variety of ideas and activities to build enthusiasm and motivation among students, teachers, and administration.

Jackson, T. (1993). *Activities that teach.* Cedar City, UT: Red Rock Publishing.
Presents 60 hands-on activities that are meaningful, yet fun. Provides complete directions and discussion questions.

Sloane, P., MacHale, D., & DiSpezio, M. A. (2002). *The ultimate lateral & critical thinking puzzle book.* New York: Sterling Publishing Co., Inc. Presents puzzles that promote lateral (or "outside the box") thinking. Useful for both the teacher and the students. Excellent thought exercises to encourage thinking and enthusiasm for learning.

Watson, G. (1996). *Teacher smart! 125 tested techniques for classroom management & control.* West Nyack, NY: The Center for Applied Research in Education.
Provides techniques for creating and maintaining an orderly, effective classroom environment.

Wong, H. K., & Wong R. T. (1998). *How to be an effective teacher: The first days of school.* Mountain View, CA: Harry K. Wong Publications, Inc.
A practical guide to setting up classroom procedures in the first days of the school year in order to create an orderly, effective classroom that focuses on learning.

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Citation

Thompson, N. E., & Wheeler, J. P. (2008). Learning Environment: Creating and Implementing a Safe, Supportive Learning Environment. *Journal of Family and Consumer Sciences Education, 26*(National Teacher Standards 2), 33-43. Available at http://www.natefacs.org/JFCSE/v26Standards2/v26Standards2Std7Thompson.pdf

Professionalism: Ethical Decision Making as a Foundation for Professional Practice

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Targeting the preservice teacher educator, the authors investigate components of Standard 8: Professionalism of the National Standards for Teachers of Family and Consumer Sciences *(National Association of Teacher Educators for Family and Consumer Sciences [NATEFACS], 2004). Standard 8 prescribes that the family and consumer sciences (FCS) teacher engage in ethical professional practice based on the history and philosophy of family and consumer sciences and career and technical education through civic engagement, advocacy, and ongoing professional development. An ethical perspectives model is presented as a means for FCS teachers to promote their realization of professional practice. The model encourages ethical deliberation, espouses the best interests of the student, upholds deliberative pluralistic decision-making, and is uniquely representative of the FCS philosophy. Additionally, rationale, strategies, and assessment are provided for teaching civic engagement, advocacy, and ongoing professional development.*

Standard 8: Professionalism of the *National Standards for Teachers of Family and Consumer Sciences* prescribes that the beginning family and consumer sciences (FCS) teacher "engage in ethical professional practice based on the history and philosophy of family and consumer sciences and career and technical education through civic engagement, advocacy, and ongoing professional development" (NATEFACS, 2004). In this paper we investigate components of this standard and present an ethical perspectives model as a means to realize optimal levels of professionalism as a FCS teacher. Because beginning teachers will encounter new problems in which they lack prior experience, development of purposeful ethical deliberation skills is a critical component in preservice education. Implementation of this model fosters pluralistic ethical decision making that serves as a solid foundation for high standards of professionalism.

Defining Professionalism

Concepts of professionalism are familiar to us all, yet they are often individualized and vocation specific. To embody the conception of professionalism, the individual interprets and translates the characteristics of the profession into patterns of action that are ethically defensible. Brown and Paolucci (1979) suggested that ethical decision-making and moral reasoning[1] are at the heart of the profession. The capacity to engage in purposeful deliberation forms the building blocks to the foundation of professionalism and is an essential antecedent to teaching FCS.

A model that employs an ecosystems approach and encourages pluralistic ethical decision making was proposed by Roubanis, Garner, and Purcell (2006). The individual, or the student, is at the center of this model, with concentric spheres expanding that focus to include family and community (see Figure 1). This model puts the well being of the individual, family, and community as the central motivation in making ethically defensible decisions. This centrality is uniquely representative of the missions of the Association for Career and Technical Education (ACTE) and the American Association of Family and Consumer Sciences (AAFCS), and shares intent with other recognized doctrines in education. The heart of the model encourages questions such as "What is best for the student?" or "How will this action affect the student?"

Ethical Perspectives Model

Ethical decision making is the foundation to professional practice in family and consumer sciences (Craig, 1996), and is a necessary skill for a teacher to forge a path to professionalism. In this section we investigate an ethical perspectives model that encourages pluralistic deliberation in arriving at professional decisions about ethical dilemmas. The model shown in Figure 1 serves as a tool for the FCS teacher to actualize the philosophies of family and consumer sciences and career and technical education.

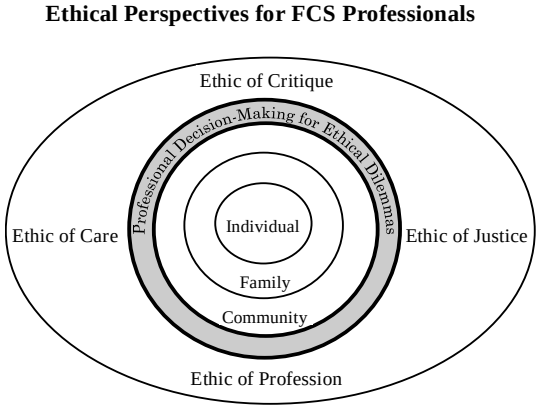

Figure 1. Ethical Perspectives for FCS Professionals. From "Ethical Perspectives Model for FCS" by J. L. Roubanis, S. G. Garner and R. S. Purcell, 2006, *Journal of Family & Consumer Sciences. 98*(4), p. 31. Copyright 2006 by American Association of Family and Consumer Sciences. Reprinted with permission.

The multiple perspectives ethics model is especially targeted for the FCS teacher because it includes components for consideration that are unique to professional FCS pedagogy (Roubanis et al., 2006). The heart of the model encourages a focus on the individual, family, and community. For the FCS teacher this central focus is the student and her/his family and community.[2] According to the National Board of Professional Teaching Standards, a cardinal precept for accomplished teaching is that teachers are committed to students and their learning (National Board for Professional Teaching Standards, 2002). Success in teaching hinges on the teacher's belief in the dignity and worth of all human beings and in the potential that exists within each student.

The central focus dictates that, when arriving at an ethical decision, the primary consideration should be the best interest of the individual or student, with an understanding of the family and community, and their dynamic relationships to the student. On the periphery of the model, four ethical perspectives coexist in one fluid environment. While each of these perspectives is steeped in its own tradition of ethical philosophy and moral development, they are dynamically located in the professional decision making context to encourage the FCS educator to contemplate multiple perspectives when arriving at a professional decision about an ethical dilemma. The perspectives are discussed directly and include: ethic of justice, ethic of critique, ethic of care, and ethic of the profession.

Ethic of Justice

The ethic of justice is perhaps the easiest perspective to understand and serves as the basis of our legal and judicial systems. It takes the position that rules, laws, policies, and principles serve as the best guide to making moral decisions. This perspective upholds that moral principles have objectivism beyond cultural acceptance and that these rules or principles should be universal to maintain right living. Kidder (1995) described this approach to making decisions as "rules based thinking." The perspective of justice endorses the notion that equal treatment of all individuals according to a standard which is uniformly applied is an appropriate means to achieving a just, equitable, and fair society (Shapiro & Stefkovich, 2005). The ethic of justice has recognizably masculine traits and provides the corner stone of traditional western thought.

Ethic of Critique

Many philosophers are not convinced by the type of logic and rationale promoted in the ethic of justice (Freire, 1998; Giroux, 2003; Greene, 1988). They critique the laws and the social processes through which these laws are brought to fruition and how they are determined to be just. Rather than accept the words of those in power, these philosophers question and challenge the status quo seeking to redefine and reframe the important issues that revolve around social inequities. They pose several questions. What are the barriers to fairness? Who will benefit from this law or policy? Who will be oppressed or silenced? What ought to be? These questions are representative of the thinking underlying the ethic of critique philosophy. This ethic is based on critical theory and is concerned with issues of oppression, privilege, authority, voice, language, and empowerment. It questions who has the power and wealth, and who does not.

Ethic of Care

The ethic of care places high value on care-giving and nurturance, which are traditionally feminine roles that have been undervalued in Western thought. With its focus on care, concern, and connection, the ethic of care promotes nurturing and encouragement above achievement (Noddings, 2003). It emphasizes interpersonal relationships and collaboration over competition, and strives to facilitate a sense of belonging. It questions who will benefit from a decision and who will be hurt. This ethic upholds the values of loyalty and trust. Ethic of care is the fundamental basis for social justice, for civic engagement, and for improving quality of life for the individual, family, and community.[3]

Ethic of the Profession

Codes are articulated statements about the role of ethical behavior and best practices as perceived by members of a profession. Serving as professional guideposts, they embody the

highest moral ideals of the profession, and thus inspire the ideal image of ethical character of the profession and professional. The *ACTE Code of Ethics* (Association for Career and Technical Education [ACTE], 2006) and the AAFCS *Governing Principles* (American Association of Family and Consumer Sciences [AAFCS], 2004) are two prominent codes for the family and consumer sciences teacher, but there are many other codes[4] that may have relevance in a particular locality and/or pedagogical area of practice. Teachers by definition are in a position of power and responsibility over students in their classrooms and the exercise of this power and responsibility requires ethical and moral decision making (Fenstermacher, 1990). Hence, the ethic of the profession for the FCS teacher is necessarily an integration of the ethics of justice, critique, and care.

Application of Model

The ethical model presented here encourages a pluralistic approach to decision making and places the individual/student at the center of those decisions. Because the model mirrors the professional ideologies of AAFCS and ACTE, it is an appropriate analytical strategy for use with preservice teachers in a quality family and consumer sciences program. The desired outcome from teaching the model is that preservice teachers habitually use this model as a tool to contemplate ethical dilemmas and arrive at judgments in their professional practice. To accomplish this outcome, the students, in this case preservice teachers in a family and consumer sciences teacher-education program, should have multiple opportunities to apply the model, to develop a better understanding of the model, and to continue to apply it beyond preservice teaching experiences.[5]

A preface for teaching this model is the discussion of what constitutes ethical dilemmas[6] and why ethical decision making is such an important foundation for professionalism and accomplished teaching. Presentation of the model commences with discussion of why the concentric spheres of individual, family, and community exist at the heart of the model, placing the ultimate decision-making focus on the best interests of the individual. The preservice teachers should recall that this focus mirrors the philosophies of AAFCS and ACTE. Next, the ethical perspectives of justice, critique, and care are compared and contrasted. The preservice teachers should recognize that all ethical philosophies fall into one or more of these paradigms. The ethic of the profession is offered as an amalgamation of the three paradigms. In the discussion of the ethic of the profession, the *ACTE Code of Ethics* and the AAFCS *Governing Principles* are reviewed and statements in the codes that reflect the different ethics of justice, critique, and care, are identified. It should be noted that professional codes are discipline specific.

After presentation of the model, the preservice teachers are ready for its application. Because the expectation is that they will be able to use the model, it is important that several opportunities for its application are provided. As with other professional studies of ethics, the case study approach provides a viable pathway for them to gain adeptness in ethical inquiry application. The first experiential application of the model should be a guided practice that occurs in the group context of the classroom. A relevant case study is introduced, and then a think, pair, and share strategy is employed for discussion of the case study. Discussion of the case study should be guided by a slate of questions that encourages the preservice teachers to focus in on the ethical dilemma(s) that the case study presents and to consider each of these from multiple perspectives. Meta-cognition is an important outcome of this process. Ideally the preservice teachers will recognize which of the three ethical paradigm(s) they are likely to

gravitate to first for reflective ethical inquiry. The effectiveness of the model hinges on the notion that there are multiple perspectives that need to be considered, and that the individual takes the important step of going beyond her/his first paradigm of ethical consideration and deliberates the ethical issue from other ethical paradigms. As a culminating activity each preservice teacher creates her/his own code of ethics that assimilates codes of the profession and her/his personal ethical ideology. From the learning experiences presented here, the preservice teachers will ideally glean the notion that the best professional decisions about ethical dilemmas are considered from multiple perspectives, and will become cognizant of their meta-cognition when making an ethical decision.

Civic Engagement and Advocacy

Identified by Standard 8, civic engagement and advocacy are pathways through which FCS teachers enhance their professional practice. Civic engagement involves purposeful participation in the social and political life of a school and community and beyond (Ehrlich, 2000; The Saguaro Seminar, 2003). Advocacy takes that participation to higher levels of aptitude and commitment. Advocacy involves the pleading of valued causes and the needs of oneself and/or others (Carroll, 1996). Advocacy facilitates needed change by taking strategic action. Both civic engagement and advocacy are professional modes of practice that exist on a continuum,[7] moving from participation in civic engagement at one end to pleading one's cause in advocacy at the other end. Participation in this continuum is a necessary component to the preservice teacher's educational experience. Because of the commonalities in both civic engagement and advocacy, they are mutually discussed in this section in terms of history, rationale, strategies for teaching, and assessment.

History

Civic engagement and advocacy are at the roots of the home economics/family and consumer sciences profession. Impetus for the early inception of the profession at Lake Placid (1899 to 1909) was to reform social ills such as child labor, poor water quality, and lack of professional opportunities for women. The history of the profession is replete with leaders who were civic-minded and actively engaged, and who advocated improving the quality of living where they lived and worked. Early leaders worked to improve living conditions in the home, the institutional household, and the community (American Home Economics Association, 1909). In this context, the home clearly is not contained by four walls and a roof. The profession's founder, Ellen Swallow Richards, stretched the definition of home to encompass a larger household, the community (Stage, 1997). She is a prime example of one who recognized problems to be resolved and who set the example of a caring, reflective, action-oriented professional through civic engagement and advocacy.

Reminiscent of the original purpose of the profession, the current FCS platform for civic engagement and advocacy is to empower individuals, strengthen families, and enable communities (Fairchild, 2001; Swierk, 2003). The seeds to accomplishing this mission are germinated in the formation of partnerships and collaborations with individuals and organizations that share our mission (Andrews, 2003; Swierk). Out of these relationships grow expanded opportunities for FCS professionals to identify common ground with other stakeholders and to enlarge the impact of joint civic engagement and advocacy initiatives.

Rationale

Empowering the powerless through civic engagement and advocacy is a primary mechanism for meeting needs and for improving quality of living (Braun & Williams, 2002; Montgomery, Brozovsky, & Lichty, 1999). Civic engagement and advocacy are critical competencies for the FCS teacher. Through engaging themselves and their students in the political and social life of a campus and community, teachers nurture the development of social ties, networking, and leadership skills (Greenberg, 2000). These behaviors build social capital, a major advantage for any individual, school, and community.

Strategies for Teaching

Being informed about relevant social issues is a mandatory precursor to intentional participation in civic engagement and advocacy. The ethics model presented in this paper provides a philosophical platform[8] for preparing teachers to practice civic engagement and advocacy as professionals. Each of the ethical perspectives in the model provides a necessary consideration for deliberated moral action: ethic of justice (What are the truths and facts?), ethic of care (Who is being helped or hurt?), ethic of critique (What needs to be changed?), and ethic of the profession (Are the standards of the profession upheld?). As explained below, the "Modified IRAC" strategy (Stewart, Purcell, & Lovingwood, 2003) prepares professionals for civic engagement and advocacy that relies upon consideration of all four ethical perspectives.

Commonly used to resolve judicial matters[9], the steps of the traditional IRAC method are spelled out in its acronym: issue, rules, application, and conclusion. The modified version includes an additional step that encourages the user to articulate the meta-cognitions used in the application and conclusion portions of the process. A description of each step of the Modified IRAC inquiry process (Stewart, Purcell, & Lovingwood, 2003) follows.

1. An *issue* is identified as a statement or question. Much care should be taken to clearly and specifically define the issue. How the issue is defined will mitigate the rest of the process.
2. The *rules* and facts that pertain to the issue are listed. Another way to generate this section is to consider what is known to be true about this issue, and pertinent to its resolution. This section includes, but is not limited to, evidenced-based research, principles of human behavior, laws, and social context. Information literacy[10] is a necessary component for satisfactory completion of this section.
3. The rules are *applied* to the issue. The scope of this section is based on the information identified in the previous sections.
4. A *conclusion* is formed that is buttressed by the previous rules and application sections. If the issue being resolved is an ethical dilemma, it will have more than one morally defensible choice for conclusion. The ethics model presented in this paper may serve as a tool to encourage deliberation from multiple perspectives.
5. The *meta-cognition*[11] used in the previous section is identified and explained. Linked to the previous sections, one or more of the following ethics are identified: critique, care, justice, and/or profession.

Adding a sixth step to the process serves as a transition to civic engagement and advocacy, and requires the formation of a plan of action. The foundation of this plan is based on the thinking delineated through the Modified IRAC steps. The plan may be reflective of an individual's action or of a group's concerted action. The Family, Career and Community Leaders of America (FCCLA)[12] espouses a planning process strategy that can provide the conduit from conclusions

generated in the Modified IRAC process to intentional participation in community service and advocacy. To secure more information about the FCCLA Planning Process and examples of how it has been successfully used, see the FCCLA webpage at http://www.fcclainc.org/.

The strategies suggested above can be used in a variety of venues. After preservice teachers understand the mechanics of the Modified IRAC inquiry method, the teacher educator provides a series of ethical dilemmas on which students construct their own morally defensible conclusions using the method. The teacher educator provides student feedback[13] on the soundness of the process they used, before moving to the FCCLA Planning Process.

The domain of family and consumer sciences provides a plethora of opportunities for civic engagement and advocacy that may take many forms including community service, volunteering, and service learning (Furco, 1996; McGregor, 2002). The ability to formulate morally defensible conclusions is an important skill to be developed in the preservice teaching experience that will later serve as the bases for moral action in civic engagement and/or advocacy.

Assessment

After the Modified IRAC has been conducted as a written activity for an ethical dilemma, the teacher educator provides the student feedback on the soundness of the use of the process, and its moral defensibility. The initial steps of the process are founded on the ethic of justice, hence students will identify this ethic in their meta-cognitive process. For the later steps, the teacher educator should challenge students to go beyond the ethic of justice[14] to consider and resolve the issue. See the Appendix for a template that can be adjusted to serve as a scorecard to assess this process.

With successful completion of the Modified IRAC inquiry method and the formulation of an action plan, the preservice teacher is ready to participate in meaningful civic engagement and/or advocacy. Portfolios are an effective assessment tool that can capture the essence of these experiences, and are discussed in greater detail later in this paper.

Ongoing Professional Development

Professionalism in teaching entails ongoing professional development. Standard 8 identifies ongoing professional development as a third pathway through which FCS teachers engage to expand their professional competence. Lifelong learning is a necessary commitment for any discipline of teaching, but especially for areas of practice in career and technical education (Wright, 2002). This section addresses the promotion of professional development in the preservice education of the FCS teacher. It includes the following sections: rationale, strategies for teaching, and assessment.

Rationale

Accomplished teaching is a status that is continually evolving. It is not a static end point, but one meant to inspire continual development. To achieve accomplished teaching, ongoing professional development is a necessity to form the foundation and frame the rich mosaic of knowledge, skills, disposition, and beliefs.

Strategies

The best strategy to encourage ongoing professional development is to ensure that the preservice teacher accepts the rationale underlying its requirement. Teacher participation in

ongoing professional development models the disposition they hope to nurture in their students: enthusiasm for and commitment to learning. Three aspects of ongoing professional development investigated here are the expanding FCS research base, pedagogical content knowledge, and self reflection.

The research base for family and consumer sciences is continually growing. This trend is evidenced in the growing number of areas of specialization in FCS programs, increasing from one program in the early 1900's to as many as 16 programs of FCS specialization today (AAFCS, 2000; National Association of State Administrators for Family and Consumer Sciences 2008)[15]. The ethic of justice and the ethic of the profession dictate that teachers acquire the content knowledge of their teaching areas throughout their career, and designates that they be responsible for maintaining a grasp of that knowledge. Mastery of the content knowledge is an ongoing process that can be secured through reading content-specific literature, participating in subject-related professional organizations, and conducting research (Rodriguez & Toews, 2006). In addition to mastering content, excellent teachers know how to convey the content to their students and have developed pedagogical content knowledge (Banks, Leach, & Moon, 2005; Deng, 2007). Sources for this development include education research, scholarship, and professional networking. Professional organizations such as AAFCS, ACTE, and Kappa Omicron Nu provide excellent opportunities for networking.

Reflective inquiry is an additional pathway for continued professional growth (Bolton, 2006). Through reflective inquiry teachers critically examine their practice on a systematic basis to target areas of knowledge expansion, broaden their repertoire of skills, and integrate new findings into their teaching. It is also important to reflect on philosophy and question how new ideologies and pedagogies are shaping personal philosophy and rationale of good practice (McGregor, 2005). Reflection on practice can be targeted through a variety of strategies. Boyd and Boyd (2005) recommend that teachers maintain a teaching journal as a means to reflect, keep course in what is going well, and improve on areas not going well.

Assessment

While acceptance of the rationale for ongoing professional development should occur in the preservice experience, practice of ongoing professional development begins after the preservice teacher graduates from the teacher education program. A challenge in assessing ongoing professional development is that the teacher educator is measuring for potential or likelihood of the preservice teacher engaging in ongoing professional development after graduation from the program. When assessing for ongoing professional development, the target measures are acceptance of its rationale and the knowledge and skills to facilitate its occurrence.

Because portfolios often involve collecting information from real-life situations, they are an ideal means to assess potential for ongoing professional development (Klenowski, Askew, & Carnell, 2006). Portfolios are performance-based, authentic assessments to measure quality (Bergen, 1994). Xu (2004) recommended that the organization of portfolio material be related to professional development. She suggested that the portfolio is a composite of workshops, seminars, professional conferences, and university classes that have been completed, and a description of how those contributed to knowledge gained and potential use in teaching. Additional assignments to be included in the professional development portfolio are a five-year professional development plan, and a philosophy statement on the importance and ethical considerations of ongoing professional development. Reflection on teaching-journal entries

provides direction for areas of professional development, to be included in the professional development plan.

Conclusion

Ethical decision-making provides the foundation for professional practice and philosophy in FCS pedagogy. To reflect the history, philosophy, and current best practices of family and consumer sciences and of career and technical education, the FCS teacher must make professional decisions about ethical dilemmas that place the best interests of the student at the heart, with considerations for family and community. In addition, these decisions must be morally deliberated from multiple perspectives that include standards of the profession. The ethical perspectives model presented here accomplishes these aspirations of focus and pluralism.

Standard 8 of the *National Standards for Teachers of Family and Consumer Sciences* recognizes civic engagement, advocacy, and ongoing professional development as pathways for FCS teachers to follow to expand their professional competence. The ethical paradigms of justice, critique, care, and profession presented here have implications for these pathways of professional development. The ethic of care and the ethic of critique are primary perspectives used in the ethical deliberation and decision-making related to civic engagement and advocacy. Many ethics-oriented questions surface as beginning teachers enter their first year of teaching. Because of the cumulative effect of decisions made by individuals, families, and communities to shape their living environment, questions are raised. In what kind of environment do we want to live and to work? What kind of environmental system ensures the most effective educational context for students, their teachers, and society? The analysis of barriers may indicate inequities with social and ethical implications. The ethic of the profession is a primary perspective used for ongoing professional development.

Because of the expanding FCS research base, the need to acquire new teaching strategies, and the need for reflective professional growth, the beginning FCS teacher must engage in continual professional development as prescribed in the AAFCS *Governing Principles* and the *ACTE Code of Ethics* and consider ongoing professional questions. What knowledge and/or skills do I need to best meet the needs of my students? What areas of pedagogy do I need to further develop? How can I better collaborate in professional organizations to improve my practice?

The ethic of the profession encompasses all aspects of Standard 8 of the *National Standards for Teachers of Family and Consumer Sciences*. The ethic of the profession is an integration of the ethics of justice, critique, and care, and reflects the higher moral standards of the profession such as those implied in Standard 8. As knowledge continues to expand at an ever increasing rate, and our teaching and living environments continue to undergo rapid change presenting an ever greater richness of diversity, the ability of the FCS teacher to make professional decisions about ethical dilemmas will remain a paramount standard of excellence in the FCS preservice teacher education program.

Notes

[1]The scope of this paper does not warrant differentiation between the terms moral and ethical, and will be used somewhat interchangeably throughout this paper. McGregor (2006) presents an appropriate clarification for the beginning FCS teacher.

[2]For the FCS teacher, the student is the central focus but additional professional considerations warrant an expanded view of the student. The student and her/his family are

interacting subsystems nested in the ecosystem of their community. When a FCS teacher uses the Multiple Ethical Perspectives Model, the individual is the student.

[3]Because concern for the well-being of others is at the center of the ethic of care, Noddings (1997) identified the ethic of care as a fundamental premise for the ethical reasoning of FCS professionals. Other scholars (e.g., Belenky, Clinchy, Goldberger, & Tarule, 1986; Noddings, 2003; Shapiro & Stefkovich, 2005) have linked the ethic of care to moral actions premised on the concern of others.

[4]Several professional organizations relevant for the beginning FCS teacher are listed in the reference section along with reference information to secure copies of their professional codes of ethics.

[5]Ideally the FCS preservice teacher will continue to apply the ethical perspectives model beyond his/her preservice teaching experiences. Ethical reasoning is a component of ongoing professional development, and should matriculate through reflection on and evaluation of subsequent teaching experiences.

[6]An ethical dilemma has as a solution of two or more positive alternatives, or more likely two or more negative alternatives. To be a dilemma, the perceived selection of one or more of the considered alternatives poses a negative consequence.

[7]The continuum from civic engagement to advocacy is reflective of the transition from the ethic of care to the ethic of critique. Arcus (1999) contends that it is not enough to care about something, but that action must be taken. This action is seated in the ethic of critique.

[8]The Multiple Perspectives Model for Ethical Decision-Making (Roubanis, Garner, & Purcell, 2006) identifies four ethical perspectives: justice, care, critique, and profession. Each of the ethics is addressed in the Modified IRAC inquiry method, and relevant for participation in civic engagement and advocacy. The IRAC portion of the method addressed the ethic of justice, which prescribes that individuals secure the relevant facts before they come to a morally defensible conclusion. Being informed on social issues is a precursor to civic engagement and advocacy. The ethic of care encourages civic engagement that benefits other people. The ethic of critique advances advocacy to make changes. And finally the ethic of the profession upholds the standards of the profession.

[9]Legal resources provide a plethora of examples of how the IRAC process is implemented.

[10]See Stewart, Purcell, and Lovingood (2003) for a discussion of what constitutes valid and reliable information to be used with the Modified IRAC inquiry method.

[11]Meta-cognition is a critical step in the Modified IRAC inquiry method. Being cognizant about one's own thinking, or the metacognitive process, is one of four knowledge dimensions in the Revised Bloom's Taxonomy. Other knowledge dimensions include: factual, conceptual, and procedural. Each of these dimensions has a range of process dimensions including the ability to: remember, understand, apply, analyze, evaluate, and create. The pedagogical implementation of the Modified IRAC followed by the Family, Career and Community Leaders of America (FCCLA) Planning Process provides learners the opportunity to exercise all of the process abilities in the meta-cognitive dimension. For a more complete description of the Revised Bloom's Taxonomy, specifically how it relates to FCS education, see Pickard (2007). For more information about the effectiveness of using the Multiple Ethical Perspectives Model as it relates to process dimension in the meta-cognitive dimension see Roubanis, Garner, and Purcell (2007).

[12]Family Career and Community Leaders of America (FCCLA) is a career and technical education student organization specifically aligned with the educational goals and philosophies of most family and consumer sciences secondary education programs. FCCLA inspires students to develop the leadership skills to be actively involved in civic engagement and advocacy. The

opportunities provided through FCCLA are worthy of consideration in the higher education classroom, congruent with Standard 10: Student Organization Integration, of the *National Standards for Teachers of Family and Consumer Sciences* (NATEFACS, 2004).

[13]An important aspect of providing students feedback on their use of the Modified IRAC is to ensure that the student provides all the facts and truths (cited in a scholarly manner) that serve as the basis for their morally defensible application and conclusion. It is important to note that the student may not come to the same morally defensible conclusion as the teacher educator.

[14]The ethic of justice provides a research base to investigate an ethical dilemma. This premise is historically representative of the work process of FCS predecessors, yet it is important to note that the ethics of care and critique have inspired the most notable societal changes advocated by these early predecessors.

[15]For a more complete list of FCS related professional organizations go to http://www.aafcs.org/fcs/pages/hou.html.

Suggested Resources

Stewart, B. L., Purcell, R. S., & Lovingood, R. P. (Eds.). (2003). *Research applications in family and consumer sciences*. Washington, DC: American Association of Family and Consumer Sciences.

When teaching the Modified IRAC method, this text serves as a resource to students in constructing/writing the first two steps of the process: issue and rules. The text provides examples of relevant issues in FCS today, and can aid in helping students frame an ethical issue or question. The text also provides multiple examples of research based inquiry, all of which can be used in the constructing/writing of the rules portion of the Modified IRAC method.

Shapiro, J. P., & Stefkovich, J. A. (2005). *Ethical leadership and decision making in education: Applying theoretical perspectives to complex dilemmas* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum.

This text offers greater depth of discussion for each of the ethical perspectives (ethic of justice, ethic of care, ethic of critique, and ethic of profession) than is provided here. The coherent discussion can be a valuable resource for the teacher educator or student seeking to understand and apply the ethical perspectives model. Additionally, several case studies are presented in the text that could be used for class discussion and/or individual reflection.

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Appendix

Assessment Scorecard for Modified IRAC Inquiry Method

Issue #____

	Actual	Possible	Comments
ISSUE			
Clearly defined		5	
RULES			
All relevant rules identified		5	
Citations convey source of rules		5	
Critical thinking evident		5	
Additional research is evident		5	
Scholarship is evident		5	
Rules are evidenced based		5	
APPLICATION			
Logic evident		5	
Focused on issue		5	
Developed from rules presented		5	
Well considered		5	
Context is appropriate		5	
CONCLUSION			
Justification is morally defended		5	
Critical thinking evident		5	
Conclusion aligns with application and rules		5	
Depth of consideration reflected		5	
META-COGNITION			
An ethic* is identified that relates to IRAC		5	
Rationale for ethic is evident, beyond justice?		5	
WRITING SKILL DEMONSTRATED			
Intended meaning conveyed		5	
grammar and spelling		5	
TOTAL		100	

* For a list and descriptions of the multiple ethics see Roubanis, J. L., Garner, S. G., & Purcell, R. S. (2006). An ethical perspectives model for FCS. *Journal of Family and Consumer Sciences, 98*(4), 30-31.

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Citation

Roubanis, J. L., Garner, S. F., & Purcell, R. S. (2008). Professionalism: Ethical decision making as a foundation for professional practice. *Journal of Family and Consumer Sciences Education*, *26*(National Teacher Standards 2), 44-59. Available at http://www.natefacs.org/JFCSE/v26Standards2/v26Standard2Std8Roubanis.pdf