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EVALUATION OF THE "CONNECTIONS: RELATIONSHIPS AND MARRIAGE" CURRICULUM

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"Connections: Relationships and Marriage" is one of a number of high school marriage education curricula designed to teach students to develop healthy relationships and marriages. This study evaluates the effectiveness of this curriculum with 375 students from rural Midwest high schools who were in either the Connections group or in another Family and Consumer Sciences course. Findings suggest that students taking the Connections curriculum improved in their conflict resolution skills, became less likely to see divorce as a good option for troubled marriages, and were more likely to take advantage of pre-marital and post-marital programs to build better marriages. Implications and recommendations for Family and Consumer Sciences Educators are discussed.

Marital distress (with or without divorce) negatively affects children, adults, and the community. Marital distress alone has been linked to manifestations of stress in children including: internalizing and externalizing behavior problems (Buehler et al., 1998); conduct disorders (Coie et al., 1991); poor academic performance, low self-esteem (Goldberg, 1993); youth crimes including theft, robbery, violence, gambling, and sexual crimes (Hooper, 1985); social and emotional disturbance in school (Mattison, Morales, & Bauer, 1992); and teen suicide (McClure, 1988; Nelson, Farberow, & Litman, 1988). Marital distress also has been linked to adult manifestations of stress including: substance abuse, criminal activity, eating disorders (Goldberg); psychopathology (Bowlby; Brown), marital battering/domestic violence (Bowlby; Goldberg; Markman, Floyd, Stanley, & Storaasli, 1988); depression (Horwitz, White, & Howell-White, 1996; Klerman & Weissman, 1990); and suicide (McClure; Nelson et al.). Further, marital distress is related to problems in the workplace such as decreased work productivity and increased absenteeism (Forthofer, Markman, Cox, Stanley & Kessler, 1996; Goldberg; O'leary & Smith, 1991; Thomas & Caverly, 1998). Gottman (1998) estimated that 30% of absenteeism is due to marital distress, costing $8 billion per year in the United States.

Many intervention programs have attempted to change these trends by focusing their efforts on the community or on at-risk individuals. Gardner and Howlett (2000) have argued that given the high rate of marital distress and the vast amount of evidence linking marital distress to a wide range of social ills, more effort should be placed on teaching marriage and relationship skills to all youth while yet in school. Durlak (1995) states that up to one half of our nation's young people are at risk for later adjustment problems, thus emphasizing the need for primary prevention (prevention aimed at everyone, not just those who are most at-risk).

Recently there has been a movement which some have termed the "marriage movement." With the resurgence of interest in the well-being of marriage in general, many new and established enrichment programs are enjoying increased attention. Among the new programs are specialized curricula that target marriage and relationship education in the schools. Many of these programs are taught in Family and Consumer Sciences (FCS) classes. Although energy, hope and enthusiasm exist for these new curricula, to date, they generally have not been studied empirically.

Currently seven programs are available nationally to teach school children marriage and relationship skills. These programs include: The Art of Loving Well; Building Relationships: Skills for a Lifetime; Connections: Relationships and Marriage; Free Teens Relationship Training; Pairs for Peers, Partners, and Social-Emotional Intelligence (Coalition for Marriage, Family and Couples Education ([CMFCE], 2000). More detailed information about each curriculum is also available in a report by the National Marriage Project authored by Pearson (2000).

The "Connections: Relationships and Marriage" Curriculum

This study focuses on the evaluation of one of the most popular of these curricula, "Connections: Relationships and Marriage." "Connections" is a curriculum that was written for use by teachers, counselors, and others who work with youth in grades 11-12 (CMFCE, 2000). It was developed by Charlene Kamper, a family life teacher in Redlands, California, and is published by The Dibble Fund. The curriculum consists of 15 one-hour lessons that comprise four units: personality, relationships, communication and conflict resolution, and marriage. The content of the curriculum aims to fulfill the needs of today's youth for self-understanding and self-esteem, healthy dating relationships and values, effective communication and conflict resolution skills, and the awareness of skills needed to build a successful marriage. While "Connections" is currently being used in 35 states and 7 foreign countries, there has been little formal research done on the impact of the curriculum. However, one informal evaluation has found that the curriculum had a positive impact on the attitudes of adolescents (Kamper, 1998).

The Impact of Marriage Education in Schools

Some argue that marriage education does not impact later behavior. Laner and Russell (1995) found that a college courtship and marriage course did not reduce respondents' unrealistic expectations for marriage. In a previous study, however, they found that taking a problem-focused courtship and marriage class did reduce unrealistic expectations slightly, but only for women (Laner & Russell, 1994). Clulow (1996) suggests that one of the problems with education-based interventions is the assumption of rationality, or that with proper information, people will make rational choices. A second problem with education is that people must reflect upon their own situations for the education to be most effective and some "may not wish to explore their experience other than in ways that will help them manage what preoccupies them most at the time" (p. 349). High school students seem particularly susceptible to both of these issues.

Yet others question, "Is high school early enough to make a difference?" Shure (1997) suggests that problem-solving skills, for example, are best learned in preschool, kindergarten or primary years. Shure does agree, however, that children can learn these skills in later years but with limited carry-over into the future. Additionally, other programs may be popular, yet ineffective. In a 10-year follow-up study, the DARE program was found not to be more effective than regular health classes for preventing drug abuse (Lynam et al., 1999). The authors suggest that the program's ineffectiveness may be due to infrequent classes being taught to children at a young age.

Teaching Does Work

Despite such studies pointing out the problems with these programs, many other studies point to the successes of similar prevention programs. In the area of parent education programs,

Luster and Youatt (1989) found that high school students who took a parenting course were more knowledgable than the control students. Additionally, they found that the students who took the course experienced attitudinal changes in key areas of parenting such as seeing increased affection as good, rather than "spoiling" a child.

Weissberg, Barton and Shriver (1997) found that a program promoting social competence for young adolescents produced long-term retention in problem-solving skills, prosocial values, teacher-rated peer relations and behavioral conduct. Danish (1997) found that participants in the "Goal" program learned the information the program taught, set attainable goals, increased their school attendance, and participated in fewer delinquent behaviors including violence. Compared with control groups, the experimental group improved significantly in self-control, interpersonal sensitivity, problem analysis, planning, and knowledge of problem solving skills. Students maintained these skills through middle school (Elias et al., 1986), and into high school by increasing prosocial behaviors and decreasing aggressive acts toward self and others (Elias, Gara, Schuyler, Branden-Muller, & Sayette, 1991).

Sayers, Kohn, and Heavey (1998) reviewed a number of marriage preparation programs and found that skills-based programs do help prevent marital dysfunctions. In reviewing a number of studies on skill retention, Cole and Cole (1999) conclude, "the data from outcome studies on skill retention has generally been very positive" (p. 274). These findings and others lead Durlak (1995) to conclude that primary prevention in the schools really does work.

Only one of the existing seven marriage education curricula has been formally tested to date. The Art of Loving Well is a literature-based relationships curriculum for middle school and high school students (CMFCE, 2000). Based on a textbook consisting of 41 ethnically diverse classic works and contemporary adolescent literary selections, The Art of Loving Well has been used with students in grades 7-12 in 47 states within schools, community groups, church groups, and homes. The textbook contains three sections that include exercises emphasizing social and emotional skills, effective communication, critical thinking, decision-making skills, conflict resolution, and sexual abstinence. The sections are titled Early Loves and Losses, Romance, and Commitment and Marriage. The values of social responsibility, responsible sex, committed faithful love, and friendship are promoted throughout the curriculum (CMFCE). Developed at Boston University, the curriculum was initially tested on 10,000 students in eighth- and ninth-grade English and health classes. The evaluations assessing the impact of the curriculum, which focused specifically on sexual risk-taking in relationships, have been positive. Among other findings, the results suggested that of the eighth-grade students who identified themselves as virgins at the beginning of the school year, only 8% of those taking this curriculum reported that they had sex during that year compared to 28% of the control group (Kreitzer, 1992).

Given the lack of research on most of the high school marriage education curricula, many have pointed to the need for more information on the effectiveness of such programs. Mack (2000), in a report summarizing these new curricula, points to the need for independent evaluations that measure specific outcomes. Laner and Russell (1995) suggest that future studies assess the pre-test to post-test differences in individual students and that studies assess changes in the respondents' relationships over time. Other studies have emphasized the need to assess behavioral outcomes (Luster & Youatt, 1989). Based on the existing research and these recommendations, this study of the "Connections: Relationships and Marriage" curriculum looks for changes in student attitudes and behaviors from pre-test to post-test due to participation in the curriculum.

Method

Participants and Procedure

Three hundred seventy-five students from rural Midwest high schools participated in the study. Of these 375 students, only 213 were included in the final sample. Some were not included because they were in classes which did not complete both the pre-test and post-test and others were removed from the final sample because students had obviously guessed on large portions of the survey (e.g., answered all "A's" no matter what the question). The remaining participants were on average 16.4 years old (Range 13 to 19 years), 88% Caucasian, 10% Native American, 2% other, 38% male, 62% female. One hundred thirty-two students took the "Connections" curriculum, while 81 students were in the control group. FCS teachers from 22 high schools agreed to participate in the study at a training session of the "Connections" curriculum. The teachers were asked to have both a class in which they taught the "Connections" curriculum and another class (to serve as a control group) participate in the study. Classes in which the "Connections" curriculum was taught were generally Marriage and Family Relationships courses. Classes for the control group were generally other FCS courses such as Housing and Advanced Foods. Before the curriculum was taught to the experimental group, participants in both classes were given a questionnaire. At the end of the curriculum (approximately 4 weeks) both classes were again given a questionnaire to assess changes over time.

Measures

The questionnaire assessed demographic variables, self-reported behaviors in relationships, and attitudes regarding relationships and marriage. Specific behaviors assessed included a self-report of the number of times during the past four months s/he had been in trouble at school and at home and reports of the frequency of various tactics used to resolve conflicts with a best friend. For this last portion, the Conflict Tactics Scale was utilized.

Conflict Tactics Scale. (Strauss, 1979) - A revision of Form - R was used in this study. Students indicated how often they had employed each of 18 tactics for resolving conflicts. Rather than asking about how often the student had done these things with a spouse, a "best friend" was used. Also the more violent tactics such as "Threatened him/her with a knife or gun" were not included so as to be more acceptable to the school administrators who sometimes felt the questions were too personal. The scale produces three sub-scale scores: Reasoning (how often reasoning was used such as "Discussed an issue calmly"), Verbal Aggression (such as "Yelled at him or her"), and Violence (such as "Slapped him or her"). Straus (1990) reports coefficient of reliability averages were: Reasoning α=.61 (ranged from .50 to .76), Verbal Aggression α=.80 (ranged from .77 to .88), and Violence α=.79 (ranged from .62 to .88). Coefficient alphas for this study were Reasoning α=.65 (ranged from .64 to .66), Verbal Aggression α=.85 (ranged from .83 to .87), and Violence α=.91 (ranged from .90 to .93).

To assess attitudes, a number of scales were generated from the questions in the questionnaire.

Divorce Attitudes. This scale consisted of eight questions answered on a 4-point scale from strongly agree to strongly disagree (see Appendix A). A sample question is "It's O.K. for a couple WITH NO children to divorce if one spouse cheats on the other." Internal consistency for this scale was α=.82 (ranged from .81 to .83).

Attitudes Toward Counseling. This scale assessed student attitudes toward premarital

counseling, post-marital counseling, and marriage enrichment programs. This scale consisted of four items answered on a 4-point scale from strongly agree to strongly disagree (see Appendix B). A sample question is "I will go to premarital counseling with my fiancé before I get married." Internal consistency on this scale for this study was α=.80 (ranged from .803 to .798).

Hypotheses

The general premise of this study was that students taking the "Connections" curriculum would be positively affected by the curriculum and improve in key scores from pre-test to post-test. Additionally it was thought that when compared to a control group, the "Connections" students would improve to a greater degree than did the control group. Specifically it was hypothesized that:

1. Students would report engagement in less troublesome behavior at home and at school after taking the curriculum.
2. Students would improve in their report of conflict resolution behavior demonstrating more use of reasoning tactics, less use of verbally aggressive tactics and less use of violent tactics in resolving problems with close friends after taking the curriculum.
3. Students would have less positive attitudes toward divorce after taking the curriculum.
4. Students would have more positive attitudes toward counseling after taking the curriculum.
5. The "Connections" students would improve on the above indicators significantly more than would the comparison group students.

Results

In a series of repeated measure analyses of variance, behavioral changes were assessed. Hypothesis one was not supported as there was no change in the amount of trouble the "Connections" students got into at home or at school over the duration of the curriculum. For hypothesis two, the Conflict Tactics Scale sub-scales (Reasoning, Verbal Aggression, Violence) were used as the dependent variables. Those taking the "Connections" curriculum began using reasoning tactics significantly more after taking the curriculum $F(1,131) = 8.03$, p=.005. This indicates that students went from using reasoning tactics approximately 9 times to resolve conflicts with a close friend in the past 4 months, to using reasoning tactics 12 times over a similar time period in resolving conflicts with their close friend after taking the curriculum. This indicates a 33% increase over the course of the curriculum. The students did not show any significant change in Verbal Aggression or in Violence scores.

For the hypotheses regarding changes in student attitudes, both hypotheses three and four were upheld. Hypothesis four suggested that student attitudes toward divorce would change after taking the curriculum. The repeated measures analysis was significant $F(1,114) = 4.42$, p = .038. Students averaged 19.7 points before the curriculum and 20.4 points after the curriculum. This indicates that on the pre-tests, students were likely to "somewhat agree" that divorce was an important option for people to have and that it was okay to divorce under various conditions. After taking the curriculum, the students, on average, moved to "somewhat disagree" with statements that divorce was an important option for people to have and that it was okay to divorce under various conditions.

For hypothesis four, it was also found that students changed significantly in their attitudes toward counseling $F(1,116) = 5.19$, p = .025. The Attitudes toward Counseling scale asked students how likely they would be to participate in premarital counseling, post-marital

counseling in the case of a troubled marriage, and marriage enrichment programs. Before the curriculum was taught, students averaged 2.51 on a 4-point scale indicating that they were right in the middle of "somewhat agree" and "somewhat disagree" that they would participate in these services. After the curriculum, students moved to a 2.41 average indicating that they had moved to the "somewhat agree" side of the line.

For hypothesis five (assessing differences between "Connections" and control groups), before the analyses were performed, a series of analyses of variance (or Chi-square analyses in the cases of the nominal variables) were first conducted to assess if demographic variables differed among the two groups. Variables included: age, family income, gender, racial background, family type (two-parent, single parent), and parent's marital status (divorced, intact). Of these, only age was significantly different between the two groups with the "Connections" group averaging 16.34 years of age and the control group averaging 16.66 years of age $F(1,208) = 4.15$, $p = .043$. Age, however, did not significantly correlate with any of the dependent variables and thus was not included as a covariate in the repeated measures analyses.

In order to suggest that the "Connections" students made significantly more progress than the control students over time, in the repeated measures analysis we would expect the time by group interaction to be statistically significant. Only those variables in which the "Connections" group had statistically significant changes are reported here. In the area of conflict resolution tactics, in general, over the course of the semester, the control group maintained their high levels of violent and verbally aggressive tactics, and their same level of reasoning tactics. Students taking the "Connections" curriculum maintained low levels of violent and verbally aggressive tactics, but increased their use of reasoning tactics. However, the time by group interactions were not significant for any of these areas.

For the divorce attitudes, the "Connections" students became less likely to see divorce as a good option while the control students became more likely to see divorce as a good option. The time by group interaction for this analysis was statistically significant $F(1, 187) = 5.07$, $p = .026$. While the "Connections" students moved from "somewhat agree" that divorce is a good option to "somewhat disagree," the control students moved from an average of "somewhat disagree" to midway between "somewhat disagree" to "somewhat agree."

For the attitudes toward counseling, although the "Connections" students became more favorable toward marriage preparation and counseling, the control students remained about the same (somewhat favorable). Therefore, the time by group interaction was not statistically significant.

Discussion

The purpose of this study was to evaluate the effectiveness of the "Connections: Relationships and Marriage" curriculum with high school students. Specifically it was thought that students would be impacted behaviorally and attitudinally as a result of the curriculum. A number of interesting results emerged that supported this thinking. Students began to use reasoning more in resolving conflicts. Student attitudes also changed as they became less favorable toward divorce and more favorable toward participating in marriage preparation, counseling for troubled marriages, and marriage enrichment to improve their marriage.

Behavior Changes

First, students taking the curriculum improved in their conflict resolution tactics by becoming more likely to utilize reasoning as a way of resolving conflicts with a close friend.

This is an important finding particularly in light of the various school shooting incidents in recent memory. If students can change their behavior and become more likely to use reasoning as a means of resolving conflicts, violence and verbally aggressive tactics will likely decrease as a result. Additionally, if these skills are maintained, students will be better able to develop satisfying and successful intimate relationships throughout their lives.

It was also thought that the curriculum would impact the other behavioral indicators of how often the student got into trouble at home and at school. This did not hold true for the study. It was originally assumed that as students learned more about conflict resolution and communication skills, they would engage in less troublesome behavior in these two environments. It may be that students are either not generalizing these communication skills to relationships outside close friends, or that it will take more time than a couple of months for the changes in skills to impact other behavioral areas. A longitudinal follow-up study could help answer this question.

Attitude Changes

Attitudes toward divorce was also another area hypothesized to be affected by the curriculum. This particular attitude is vital for future marital stability and quality. Amato and Rogers (1999) found that having a favorable attitude toward divorce tends to erode marital quality over time. Amato and Booth (1991) also found that those whose parents divorce or had unhappy marriages subsequently had a more favorable attitude toward divorce in their own marriage. Combining these two studies points to the necessity of teaching the realities of divorce to all students, but particularly to those whose parents have divorced or have poor marriages. The "Connections" curriculum seemed to be especially effective in this area. While the "Connections" students moved from "somewhat agree" that divorce is a good option to "somewhat disagree" after having taken the curriculum, the control students moved from an average of "somewhat disagree" to midway between "somewhat disagree" and "somewhat agree." This would suggest that without intervention, high school students tend to become more favorable toward divorce over the course of their time in high school. It appears that both groups of students were teetering halfway between agreeing and disagreeing that divorce is a good option for people having problems in their marriage. The "Connections" curriculum, however, was able to give students a more realistic view of divorce, which led them to be less likely to see divorce as a good option for troubled marriages.

Attitudes toward attending pre- and post-marital classes, counseling, and programs also improved after the curriculum. Here again it appears that students are not really sure what they think about participating in these services. Before taking the curriculum, students were right in the middle between tending to agree and tending to disagree that they would participate in these services. After taking the "Connections" curriculum, students had moved to the "somewhat agree" side of the line. This move in attitudes is crucial because research tells us that these programs are effective if people will simply take advantage of them.

In summarizing 29 marital and premarital programs, Gurman and Kniskern (1977) found that these programs were effective in decreasing the likelihood of marital problems. Hof and Miller (1981) looked at 40 studies of such programs and suggested that these programs appear to be effective. Research on specific premarital education programs reports that programs improve global relationship adjustment; improve commitment to the couple relationship (Buckner & Salts, 1985); increase self-disclosure, increase acceptance of partner and use of positive solutions; improve problem-solving skills, decrease disagreements and negative emotions; and

thus promote marital quality and stability (Markman, & Hahlweg, 1993; Markman, Renick, Floyd, Stanley, & Clements, 1993; Renick, Blumberg, & Markman, 1992). Additionally, such programs cut the divorce rate by half (Markman et al., 1988; Olsen 1983) and lead to happier, better functioning children (Markman et al., 1988). These programs really work if young people can be convinced to take advantage of them.

Comparisons with the Control Group

In comparing the "Connections" group to the control group, it was hypothesized that the "Connections" students would improve significantly more than did the control group. This was only the case with the attitudes toward divorce. Although the "Connections" students did improve significantly, and the control students did not improve significantly on measures such as use of reasoning tactics and attitudes toward counseling, the overall group differences were not significant. It is likely that this occurred for one of two reasons. First, the sample size may not have been large enough to produce a statistically significant difference in variables where small changes took place. A number of schools did not return their post-test questionnaires, while other students were disqualified due to guessing. These factors decreased the overall sample size.

A second reason for the lack of difference between the groups on some variables could be the beginning differences between the groups. As the relationships class was an elective class, students self-selected into the course. The control group consisted primarily of non-elective classes such as health or other more popular electives such as foods and nutrition. This resulted in the control group starting off much "worse" than the "Connections" group on many variables. For example, the control group scored much higher on their use of violent and verbally aggressive tactics on the pre-test. In essence, the control group had lots of room for improvement, while the "Connections" students started off with better conflict resolution skills and did not have as much room to improve.

Limitations and Recommendations for Family and Consumer Sciences Researchers

One limitation of this study is generalizability. Given that the study was limited to students in Upper Midwest high schools which were mainly rural, caution should be taken in generalizing the results to other populations. This was a highly Caucasian sample as is characteristic of the Upper Midwest and again the results may not generalize to urban and ethnically diverse populations. Future studies should include urban and ethnically diverse samples.

Another limitation lies in the dissimilarities between the "Connections" and the control students. As the students were not randomly assigned to groups, the "rougher" students did not choose to take a relationships class. Future studies should attempt to either randomly assign participants to courses, or to select control groups that are more similar to the experimental group.

Laner and Russell (1995) call for a longitudinal study to assess the impact of marriage and family classes on students. Although this study assessed the students both before and after taking the curriculum, a much longer time period is needed between testing in order to see the long-term impact of such curricula.

Lastly, after the various marriage education curricula have been empirically validated and the studies replicated, Durlak (1995) suggests additional steps in prevention research. The next step should be to "identify active program components" (p. 85). For example, at this next stage

one could determine what parts of the "Connections" curriculum were most responsible for bringing about the positive changes in attitudes related to divorce and counseling services. In this way, curricula can be improved, refined and calibrated for maximum impact in the lives of students.

Implications for Family and Consumer Sciences Educators

Morris and Carter (1999) point to the need to take a "more proactive approach to premarital education . . . including the implementation of premarital education programs offered in Family and Consumer Sciences classes in schools" (p. 13). This study adds "hard evidence" of the effectiveness of one such marriage education curriculum. The results of the study demonstrate that high school students taking a relationships and marriage curriculum can significantly improve their conflict resolution skills. Students can also gain a more realistic view of divorce and become open to better solutions to problem marriages such as pre-marital and post-marital counseling. Such courses have promise for decreasing violence and improving marriages and thus improving the quality of life for individuals, families, and communities.

A second implication of this study is hidden in the differences between the control and experimental group students. In this study, the "Connections" curriculum was only taught in optional FCS courses. One striking feature was that students who choose to take these courses are quite different from those who do not. Those who chose not to take the "Connections" courses were much more likely to use violent and verbally aggressive tactics at the beginning of the school year and were more likely to get in trouble at home. In short, those who most needed to take a marriage education course were least likely to do so when such a course is an elective. As part of being proactive, as Morris and Carter (1999) suggest, these authors suggest a more asserted effort to establish marriage and family FCS courses as required courses for all students.

Lastly, with a growing number of new marriage education curricula on the market, FCS educators should be cautious in their selection of a curriculum. Choosing a curriculum that has been empirically shown to be effective should be a major criterion in the selection process.

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Appendix A
Divorce Attitudes Scale

Using the following scale as a guide, indicate how much you agree or disagree with each statement. Circle only one response for each statement. Answer as honestly as you can.

YES!	yes	no	NO!
Strongly Agree (SA)	Somewhat Agree (sa)	Somewhat Disagree (sd)	Strongly Disagree (SD)

1. Divorce is an important option for married people to have
2. I will probably get divorced at least once if I ever marry
3. It's O.K. for a couple WITH NO children to divorce if one spouse cheats on the other
4. It's O.K. for a couple WITH children to divorce if one spouse cheats on the other
5. It's O.K. for a couple who fight all the time to divorce if they have NO children
6. It's O.K. for a couple who fight all the time to divorce if they have children
7. It's O.K. to divorce if a couple WITH NO children just has unsolvable differences
8. It's O.K. to divorce if a couple WITH children just has unsolvable differences

Appendix B
Attitudes Toward Counseling Scale

Using the following scale as a guide, indicate how much you agree or disagree with each statement. Circle only one response for each statement. Answer as honestly as you can.

YES!	yes	no	NO!
Strongly Agree (SA)	Somewhat Agree (sa)	Somewhat Disagree (sd)	Strongly Disagree (SD)

1. I will take a marriage preparation course with my fiancé before I get married
2. I will go to premarital counseling with my fiancé before I get married
3. After I'm married, I will attend a marriage enrichment class with my spouse
4. After I'm married, if we are having trouble in our marriage, we will go to counseling

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DISTANCE EDUCATION: A PLACE FOR FAMILY AND CONSUMER SCIENCES

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Distance education, in its many forms, has arrived in today's society. This paper will briefly discuss the history and current applications of distance education. The benefits and limitations of distance education are elaborated upon. In most cases, limitations can be overcome, related insights are shared. A brief description of the author's experience with a distance education course in Family and Consumer Sciences is presented. Related conclusions and implications for Family and Consumer Science professionals are drawn.

The discussion has been underway for some time now. Is distance education a good idea? Is it good for students? universities? professors? Family and Consumer Scientists? Before we begin the debate, a definition is in order. Distance education is "the process whereby the education of a student occurs in circumstances where the educator and the student are geographically separated, and the communication across the distance is accomplished by one or more forms of technology, typically electronic, such as television and computers, though, strictly speaking, not limited to these media" (Rubiales, et al., pg. 32). Essentially, distance education can occur in a variety of forms.

Proponents argue that distance education is a win-win situation for both faculty and students, while opponents say that distance education is a disservice to everyone involved. Many authors have pondered the subject, and most make valid points about the benefits and limitations of distance education. Despite the negative aspects of distance education, it is possible to provide a quality program while still maintaining academic integrity and preserving university faculty positions.

Educators within the area of Family and Consumer Sciences have traditionally used a variety of media to teach their courses. Uses of professional journals, videos, brochures, etc. have provided a multitude of valuable experiences for students. New technology now provides students with access to the Internet and an infinite number of online resources that relate to family and consumer issues (Reichbach, 1995). This technology, coupled wit innovative instructional design, allows state-of-the-art education.

This paper will briefly discuss the history and current applications of distance education. The issues surrounding distance education are debatable and sometimes controversial, therefore, both benefits and limitations will be elaborated upon. It is probable that distance education will play an important role in the future of Family and Consumer Science education, as well as, higher education in the United States and the world. Related conclusions and implications for Family and Consumer Sciences will be shared.

A Brief History of Distance Education

It is not clear whether distance education is an outgrowth of technological applications to education, a result of the success of correspondence schools in the 1950's and 1960's, or an outcome of the commercialization of universities in the 1970's (Guernsey, 1998; Hains et al., 1999; Levin, 1998; Noble, 1997; Rubiales, et al., 1998). Perhaps it is some combination of the

three. Most experts agree that distance education is a close cousin to correspondence courses, which became popular with the rise of the modern postal delivery system and in the military (Ben-Jacob, 1997-98; Levin, 1998; Rubiales, et al., 1998; Yellen, 1997-98). Correspondence-by-mail courses offered course credit for assignments, exams, papers, etc. Distance education quickly evolved from the mail format to include radio, video-conferencing, courses on television, videotapes, and the Internet.

In the first online classes, course assignments and guidelines were presented on a "bulletin board scheme" over the Internet (Ben-Jacob, 1997-98). The next evolution brought faculty-student correspondence and assignments being transferred via e-mail (Ben-Jacob, 1997-98). Current online courses are becoming much more technologically advanced, integrating a variety of technologies, including combinations of teleconferencing, video and audio tape, discussion groups, links to "hot spots", private and group e-mail, and online research (Belanger & Jordan, 2000; Eastmond & Lawrence, 1998; Hanna, et al., 2000; Leh & Som, 1999; Newman, 1996).

With the increased use of computers, modems, and now the Internet, the information super highway is growing faster than ever! Family and Consumer Scientists are increasingly using the Internet, e-mail, conferencing, and other resources as important teaching tools in the traditional classroom. Combine this rapid increase in the educational use of technology with the fact that Universities are being called upon to support themselves with external resources (e.g. outside grants, donations, etc.), and the "commercialization" of the teaching side of higher education may be considered a natural outgrowth.

Current Use of Distance Education

Regardless of the reasons, there has been a dramatic increase in the number of distance education courses offered in the last few years. Despite this massive expansion, the traditional University environment is still the place of choice for the majority of students. Traditional students outnumber distance education students six to one (Noble, 1997). The future ratios may look a little different. The number of college bound students is growing. It is estimated that approximately 20 million students will be college bound by the year 2010 (Rubiales, et al., 1998). Distance education courses may be one way to ease the potential overcrowding of already bulging campuses.

Already, the number of distance education courses is quickly multiplying; reflected in that is an increasing number of disciplines, programs, and degrees offered (Eastmond & Lawrence, 1997-98; Leh & Som, 1999). Both undergraduate and graduate degree courses are offered in distance education formats. Universities of all shapes, sizes, and reputations are developing and delivering distance education courses and complete degree programs (from Bachelor's to Doctoral degrees). Prestigious universities such as Harvard and Duke (Newman, 1996) as well as stand alone "virtual universities" like the University of Phoenix and the New School for Social Research (Noble, 1997) offer courses over the Internet. In fact, eleven universities worldwide are solely distance-education based (Dunn, 2000). Other, traditional universities offering distance education courses include: Indiana University, Brown University, the University of California, California State University, the University of Colorado, Seton Hall, the University of Chicago, and Kansas State University, to name a scant few (Ben-Jacob, 1997-98; Boettcher, 1998; Guernsey, 1998; Hodes, 1997-98; Leh & Som, 1999; Newman,1996). The actual number of Internet courses is impossible to obtain because new online courses are being added at a very rapid rate. A simple Internet search on the key words "distance education" will

produce an enormous list of resources, services, and Universities offering distance education education.

The growth of distance education is a worldwide phenomenon. Online courses are offered in countries around the world, including: the United States, China, Canada, Europe, New Zealand, Africa, the United Kingdom, Australia, Israel, and many others (Ben-Jacob, 1997-98; Boettcher, 1998; Hodes, 1997-98; Newman, 1996). Noble (1997) suggests that universities need to participate in distance education or get left behind; this is the pressure of progress. To assist this flow of progress, handbooks and guidelines have been developed which offer exemplary practices for distance education (Belanger & Jordan, 2000; Hanna, et al., 2000; Johnstone & Krauth, 1996; Leh & Som, 1999; Rubiales, et al., 1998; Western Cooperative, 1997).

What is the best way to serve students? Is distance education the wave of the future? Will it replace the traditional University setting or is it just a reasonable alternative to the traditional means of education? Is it simply another way for universities to make a profit? The answers are unclear. Some foresee distance education turning higher education into a high tech television station (Noble, 1997). Others think that the "Virtual U" (i.e. Internet-based education at the University level), in some form, is destined to thrive in the future of higher education. Customized educational software programs that help faculty develop online courses are numerous (Levin, 1998; Noble, 1997). Big name industries (e.g. Kodak, IBM, Microsoft and several publishers) are sponsoring such projects (Noble, 1997). Consortia of educational institutions, some partnering with corporate sponsors already exist (Eastmond & Lawrence, 1997-98; Noble, 1997; Western Cooperative, 1997). The commercialization and commoditization of education is upon us.

Positive Aspects of Distance Education

For the purposes of discussion, an overview of both the pros and cons of distance education will be provided. And while, in reality, limitations may not be as serious as some believe, the points made are valid and need to be considered by anyone involved in distance education.

Convenience is the biggest "pro" for distance education. Students report that they could not otherwise enroll in the class due to scheduling demands, work, and family obligations. This appreciation of the convenience that distance education provides may partially explain results reported by Yellen (1997-98) who reported that distance education students were more satisfied consumers of the same course taught in both traditional and distance education formats. The ultimate convenience of an online course, with access to course materials 24 hours a day, is that students can work at their own pace and on their own time schedule.

Another component of convenience is the "geography factor". Students do not have to drive to commute to a campus and compete for a parking space. In fact, students do not have to live in the same state or country to take an online course. Physical access is an issue for people who are limited in energy or mobility. Persons with physical disabilities may greatly benefit from the distance education alternative, and consequently, a new audience may be reached. Distance education provides a great combination of accessibility and cost effectiveness (Dunn, 2000; Draper, et al., 1999; Guernsey, 1998; Hains, et al., 1999; Hodes, 1997-98; Leh & Som, 1999; Levin, 1998; Rubiales, et al., 1998).

Class size may be reduced in distance education classes. Boettcher (1998) suggests that the "unofficial" optimal number of students in a traditional classroom is between 25 and 30. To allow for greater interaction between professor and student, Boettcher (1998) proposes that the

experience in distance education is unique, and the optimal number of students may be between 12-20 students per online course.

Professors teaching distance education courses report that student interaction is increased. Furthermore, professors report they can provide deeper and more thoughtful responses to student questions via e-mail than would be possible with students in a classroom (Ben-Jacob, 1997-98; Boettcher, 1998; Rubiales, et al., 1998). Professors are able to ponder students' questions and provide better answers compared to situations in which they are approached without warning after an in-class discussion.

In addition to the increase in professor-student interaction, student-student interaction is enhanced. Students may take more initiative by asking questions and discussing items with their fellow students in this rather anonymous online environment (Barker, 2000; Boettcher, 1998; Eastmond & Lawrence, 1997-98). Students who hesitate to speak up in a traditional classroom, may not have the same apprehension at the keyboard.

Boettcher (1998) suggests that another benefit is that through distance education, outstanding professors can reach a broader range of student audiences. Professors noted in their respective fields, can convey their subject matter knowledge to students on and off their university campus. And while the number per class may be small, the potential, over time, of reaching a larger number of students around the world is evident.

Through distance education, new and heretofore un-tapped audiences are reached. Distance education has historically attracted adult learners, including military personnel, homemakers, etc. (Guernsey, 1998; Hains, et al., 1999; Hodes, 1997-98; Levin, 1998) and students who may have only had access to lower level or non-degree courses. The university, through distance education, is serving a formerly unservable audience. These students may not be "traditional" students who could be served in traditional classrooms. The increase in the number of total students served necessarily brings additional money to the university.

The issue of profit for the universities is of concern to many. Some feel that the university benefits disproportionately compared to the faculty member (Ben-Jacob, 1997-98; Hodes, 1997-98; Noble, 1997). Many distance education classes cost more than the same classes taught in the traditional classroom. While distance education certainly provides profit to the university, professors can earn additional income. In some cases, however, faculty are only paid a fraction of their regular salary to teach online courses (Noble, 1997). In other cases, professors are compensated up to $150 per student or more, with additional money going to the college and department (Boettcher, 1998). Bonuses also may be given when registration rates are high (Boettcher, 1998). Of course, as stated earlier, enrolling more students is not necessarily better for course management and communication.

One often overlooked benefit of distance education is that there is a written record of all activity in the "classroom", including all exam questions, answers, and scores. In addition, there is a record of what everyone in the class has said via e-mail and discussion groups (Newman, 1996). Attendance, discussion and class participation points are more easily documented than in traditional classrooms.

Negative Aspects of Distance Education

Without a doubt, there are ethical, pedagogical, and logistical concerns surrounding distance education. The most commonly cited "danger" is that distance education threatens the traditional university setting, commonly coined the "fall of the ivy" (Ben-Jacob, 1997-98; Feenberg, 2000; Newman, 1996). Some opponents think that distance education will result in a loss of faculty positions. Others believe it is a new medium for and supplement to higher

education, not a substitute for existing means (Ben-Jacob 1997-98; Feenberg, 2000; Guernsey, 1998).

Of course, cost, or capital outlay is an important consideration. A lot of time and energy goes into transforming a traditional course into a distance education product. As mentioned previously, many companies offer easy to use software, which will assist in the layout of an online course (Levin, 1998; Noble, 1997). In many cases, Universities are using internal money to get distance education programs started. In other instances, outside grants can be obtained to get faculty started. With the profit that will come, these courses can be self-sufficient and the university will benefit.

Lack of face-to-face contact is another frequently touted drawback of distance education. When students rarely or never see their professors face to face, it is impossible to see the professors' facial expression, or detect the voice inflections when a point is being emphasized (Abram, 1999; Newman, 1996). It may be true that students rarely, if ever, will see a distance education professor in their office. However, let's consider how many students in a traditional classroom attend office hours? In either case, when students need face-to-face contact with nearby professors, they are likely to be accommodated.

It is understandable that some discomfort exists regarding distance education. A startling incident occurred at York University in Canada. Untenured faculty were asked to put their courses on video, CD-ROM, or the Internet or lose their jobs (Noble, 1997). A strike occurred as a result, and eventually faculty were able to resolve the dispute to their liking (Noble, 1997). When some faculty are forced to participate in distance education, the outcome is not a positive one. Distance education is not for everyone. Faculty must be given a choice regarding whether they participate in distance education.

Noble (1997) describes how one school hires outside contractors to design distance education courses. These contractors later release their rights to the course. This prohibits course creators from teaching these courses. Who has rights over the "intellectual capital"? What happens to the quality of the education? These two occurrences are a travesty to higher education, and should not occur.

Regardless of whether faculty are mandated or volunteer to teach a distance education course, an increased faculty workload is a probable result (Boettcher, 1998; Levin, 1998). Faculty may begin to feel that they must always be accessible to students. Obviously, faculty workload is positively related to the number of students served and to whether or not the distance education courses are offered during the same term as traditional courses. The time commitment from faculty is necessarily increased in the development stage when the traditional course is transformed into an Internet course. Time is also required for the maintenance and continual updating of existing courses. This is even more crucial for Internet courses, since links and web sites must be continually checked and updated. Draper et al. (1999), recommends that administration consider providing release time for distance education faculty.

How is the integrity and rigor of distance education courses maintained? For one thing, it is important that faculty not become overloaded with distance education courses (or their "traditional" courses, for that matter). Many Universities rightfully limit the amount of "overload" a faculty member can accept. Additionally, it is imperative that faculty work to prevent cheating and maintain the rigor of the online course in the same manner that traditional course integrity is enforced. Fortunately, with the advances in computer technology, there are ways to build in mechanisms to prevent cheating (e.g. randomized exam questions, passwords, time limits on exams and assignments, etc.). The situation is not unlike large lecture classrooms

where professors cannot be assured that the student is who he/she claims to be, unless student identification cards are checked.

Family and Consumer educators know that scams abound in daily life. Not surprisingly, Internet scams are one of the fastest growing types. Education fraud is not a new concept; but education fraud on the Internet is. How can students be assured that the course is offered through an accredited school and not a diploma mill? It is the responsibility of both the student and university to verify accreditation status, whether the course is degree-based, or whether the course is offered for credit or just for fun.

Finally, logistical concerns are inevitable. Students may feel it is difficult to get help when problems arise. System failures and computer glitches are legitimate concerns. Distance education professors need to maintain flexibility regarding classroom policies should a system failure prevent a student from accessing course assignments or exams. Fortunately, these "down times" can be easily documented and alternatives can be arranged.

Conclusions and Implications for Family and Consumer Scientists

Distance education, in its many forms, has arrived. Family and Consumer courses are among the many subjects that are covered in the plethora of distance education courses throughout the world. By incorporating the benefits of distance education, and simultaneously avoiding the limitations, valuable, rigorous, and timely family and consumer courses are viable.

As a professor team-teaching a distance education consumer education class in Family and Consumer Sciences, I believe that the benefits of distance education far outweigh the limitations. When technology is coupled with other innovations in teaching, a top-notch course can emerge. One innovative approach to teaching consumer education is using a team teaching approach. The Consumer in the Legal and Economic environment is a successful example of such a course on our campus. Because of the course's long record of success, university personnel invited the co-instructors to participate in two types of distance education applications. The two mediums, distance education through videocassette and distance education on the Internet have provided students with options. Experiences have been primarily positive for students, faculty, and the university.

Students have raved about the convenience and timeliness of the Family and Consumer Science courses on our campus. The many benefits of referring students to current online scams, federal government agency activities, newspaper articles, etc., adds to the timeliness of the course.

Instead of berating distance education and worrying about the "traditional academic experience", academicians need to work on strengthening the existing system. Implementing distance education with the high standards with which "traditional" courses are implemented is essential.

Ben-Jacob (1997-98) proposes that future economics will affect the ultimate future of distance education. As universities increasingly look toward profit making endeavors for their survival, the potential profit and loss will speak volumes about the future of distance education. However, it appears that the virtual university, in some form, is going to be around for a long time. Distance education most certainly will not replace the traditional university classroom experience. However, with the time constraints of students and adult learners, distance education is a desired commodity. This commodity could include courses for credit, or non-credit courses through extension programs. Family and Consumer Science is especially on track for offering meaningful, useful, practical courses to all kinds of people via the Internet. The field of Family and Consumer Science is one of general appeal and application.

Consequently, a large variety of Family and Consumer Scientists can participate in online distance education. Distance education is a timely, widespread, and far-reaching medium on which to "grow" Family and Consumer Sciences, and promote the disciple on a large scale. It gives Family and Consumer Science professionals the ability to reach a larger audience, proclaim what Family and Consumer Science is all about, as well as, bring in money to faculty, the department, and the University. With a watchful eye on faculty willingness, student reaction, and continual updating of the classes, distance education could be a win-win situation for the world of Family and Consumer Sciences.

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ANALYSIS OF THE JOURNAL OF FAMILY AND CONSUMER SCIENCES EDUCATION, 1995-1998

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Volumes 13-16 of the Journal of Family and Consumer Sciences Education were reviewed to determine the types of articles published, the research problems addressed, the research methodologies utilized, the degree to which research and theory interact, the extent of graduate student involvement in published research, and the extent and nature of collaborative and interdisciplinary research efforts. Eighty-nine percent of the articles published between 1995 and 1998 were based on original research. Research topics related primarily to professional issues in the field and programming in specific content areas. Of the 77 authors, 53% were family and consumer sciences educators and only 5 were identified as graduate students. More than three-fourths of the research-based articles were categorized as empirical-analytical; most used descriptive methodology. Thirty-seven percent of the articles incorporated a strong theoretical or conceptual framework and/or utilized theory-building statistics; however there was little evidence of real interaction between research and theory. The results are compared to earlier reviews of Volumes 1-12.

Since the Journal of Vocational Home Economics Education (JVHEE) was first published in 1983, it has served as a major outlet for the dissemination of research in the field. The status of research as published in JVHEE was documented by Clawson and Morgan (1988) in a review of Volumes 1 through 6 and Couch and Felstehausen (1994) in an analysis of Volumes 7 through 12. Three research paradigms, based on the purpose of the research, were used as the framework for both reviews: empirical/analytical, interpretive, and critical inquiry.

The aims of empirical/analytical research are "to describe, explain and predict in ways which are observable or measurable empirically" (Way, 1989, p. 2). Clawson and Morgan (1988) reported that 93% of the research-based articles published between 1983 and 1988 utilized empirical/analytical methodology. By contrast, the percentage of empirical/analytical studies in Volumes 7-12 declined to 74% (Couch & Felstehausen, 1994). The intent of the interpretive research framework is to understand human experience "from the perspective of those living through the experience" (Hultgren, 1989, p. 41). Interpretive research published in JVHEE more than doubled from 1988 to 1994, from 6% to 20%. Research using critical inquiry, which integrates the empirical and interpretive approaches (Morgaine, 1992), was published infrequently in the first twelve volumes, with only 1 article published during each six-year period (Couch & Felstehausen, 1994).

Other results of the earlier analyses revealed a heavy reliance on survey data collection methods and descriptive statistical procedures, limited research designed to build or test theory, and, in Volumes 7-12, increased use of qualitative methodology (Clawson & Morgan, 1988; Couch & Felstehausen, 1994). Couch and Felstehausen (1994) made the following recommendations for a future research agenda:

(1) Strengthen the interaction between theory and research;

(2) Continue use of alternative methodologies, including the interpretive framework, critical inquiry, and qualitative methods;
(3) Expand opportunities for graduate student involvement in research and publication; and,
(4) Continue collaboration and increase interdisciplinary research efforts.

Purpose of Study

The purpose of this paper is to review the status of research in family and consumer sciences education as reflected in manuscripts published in the Journal of Family and Consumer Sciences Education (JFCSE), formerly JVHEE, Volumes 13-16, 1995-1998. Content analysis procedures were used to identify the types of articles published, the research problems addressed, the research methodologies utilized, the degree to which research utilizes theory, the extent of graduate student involvement in published research, and the extent and nature of collaborative and interdisciplinary research efforts.

The three research paradigms previously described formed the basis for classifying published research by purpose. In addition, a classification system proposed by Gay and Airasian (2000) was used to further describe research methodology in terms of specific procedures. Gay and Airasian (2000) have classified research based on method, including traditional quantitative methods, e.g. descriptive and experimental; qualitative methods, that is, collection and analysis of extensive narrative data in a naturalistic setting; and historical methods, which may have both quantitative and qualitative components.

Results

Forty-six refereed articles, 15 Book Briefs, 11 Praxis articles, and one invited historical manuscript were published in the Journal of Family and Consumer Sciences Education (JFCSE) between 1995-1998. This time period covers the editorship of Marilyn Martin Rossmann with Jan Phlihal serving as the associate editor. The 100 JFCSE authors who wrote articles published in the time frame covered in this review represented 40 colleges and universities, a number of secondary schools, various state governmental agencies, and private consulting firms.

A total of 77 different authors wrote the refereed articles. Slightly more than 50% (n = 41) of the authors of the refereed articles were family and consumer sciences educators, either at the high school or college level. The 36 authors (47%) who were not family and consumer sciences educators included professionals in related content areas, educators in fields other than family and consumer sciences, and other professionals employed in education related positions. Two-thirds of these 36 individuals co-authored articles with family and consumer sciences educators. Five authors were identified as being graduate students at the time the articles were published. Fifteen percent of the research-based manuscripts (11 articles) were single-authored; 12 individuals authored or co-authored more than one article during this four-year period.

Book Briefs, the book review section of JFCSE as it is now titled, was expanded in 1996 to include a broader range of publications. Book Briefs published between 1995 and 1998 included reviews of the American Association of Family and Consumer Sciences, Education and Technology Division Yearbooks, Volumes 15-18. Two of the reviews featured books highlighted the history and philosophy of our profession. These were Rethinking Home Economics: Women and the History of a Profession edited by Sarah Stage and Virginia Vincenti, published in 1997, and Philosophical Studies of Home Economics in the United States, Basic Ideas by Which Home Economists Understand Themselves by Marjorie Brown, published in

1993. Other book reviews focused on publications related to issues such as school and education reform; work and family issues; family values; and school, violence and society. Fifteen authors wrote the Book Briefs; all were single authored.

A new section called Praxis was introduced in Volume 14. The JFCSE Editorial Board authorized this new section to encourage authors to "write in a reflective and thoughtful way about future actions in the field of family and consumer sciences education." The intent of these articles was to "incorporate short, non-refereed articles which focus on the practice of family and consumer science educators" (Rossmann, 1996, p.1). Eleven Praxis articles were published in the JFCSE volumes included in this review. Of these, eight (73%) were single authored. Sixteen individuals authored the eleven manuscripts that focused on topics such as the vision and mission of family and consumer sciences, innovative programs in our field, parenting, aging, and new teacher education programs.

Types of Articles

Of the 46 refereed articles, 41 (89%) were categorized as research publications, that is, they were based on original research. The remaining five refereed articles addressed education-related topics including models of teaching, an examination of literature available to teach ethics, and a cooperative learning approach to a family relations course.

Research Problems Addressed

The outline used in the last review of research published in JVHEE (Couch & Felstehausen, 1994) was based on the 1996 American Home Economics Association Teacher Education Yearbook, Review and Synthesis of Research in Home Economics Education. The same outline was followed for the current analysis.

Research Design in Family and Consumer Sciences Education. Two of the 41 research-based articles fit into this category. The first was an article describing the use of focus groups to determine secondary teachers' in-service needs. The article explained focus groups procedures and provided an example of a focus group study that had been conducted in Nebraska. The second article presented a "Perceptions of Change" instrument developed to help clarify theories of change and provide contexts within which to examine change.

The Field of Family and Consumer Sciences Education. Seventeen (42%) of the research-based articles were classified as being in this category, however, no one topic was dominant. Published articles included topics such as supply and demand of teachers and future professional needs (three); beginning teachers and the mastery of teaching (three); career development (three); curriculum change/reform (two); and leadership (two).

Programming in Family and Consumer Sciences Education. The 20 articles in this category represented nearly one-half of the total research based articles (49%) published in the JFCSE issues included in the analysis. The articles included studies in traditional family and consumer content areas such as parenting, families, food and nutrition, and child care. Other articles included those focusing on ethical concerns, teen theft in schools, intercultural issues, integrating parenting and language arts, and assessment of nutrition education.

Priority Issues in Family and Consumer Sciences Education. There were very few research articles related to the priority issues identified in the 1996 Teacher Education Yearbook. One article focused on work and family issues, another addressed employability skills required in child care programs, and a third addressed the relationship between FHA/HERO Chapter Advisors' perceived job satisfaction and chapter success. Microcomputer adoption was

addressed in one article; however, it was examined from an historical viewpoint rather than a current issue perspective. Basic skills, higher order thinking skills, gender equity, youth and families at risk, entrepreneurship, and middle/junior high school programs were not addressed in the volumes analyzed in this study.

Although not identified in the 1996 Yearbook, a topic that certainly merits designation as a priority issue in our profession is the nationwide shortage of qualified secondary family and consumer sciences teachers. As mentioned previously, three articles included in Volume 16 addressed this issue from different perspectives. One article examined irregular certification; another explored recruitment implications of career choice decisions for recent family and consumer sciences education graduates; and the third drew implications for teacher shortage, teacher education, and in-service education based on job satisfaction of current teachers.

Research Methodologies Utilized

Of the 41 published research reports, 33 (80%) were categorized as empirical/analytical, seven (17%) as interpretive, and one as both empirical/analytical and interpretive. There were no published research reports in these four volumes of JFCSE identified as having used the critical science mode of inquiry.

Using Gay and Airasian's classifications, the research articles were examined further to identify the methods used for data collection and analysis within each mode of inquiry. Thirty-two of the empirical/analytical studies used traditional quantitative methodology; including 31 using descriptive methods and one, a pre-test/post-test treatment group design, classified as pre-experimental. One empirical/analytical study used historical methods.

The survey was the most frequently used method of data collection for the 33 empirical/analytical studies. The one study classified as both empirical/analytical and interpretive also used survey methods. Thirty-one (94%) research reports indicated that data had been collected in this manner, including three studies that utilized the Delphi method. Only one study used telephone and face-to-face interviews. More than one method of data collection was reported for a number of research studies.

The interpretive studies (n = 7) utilized a variety of qualitative data collection procedures. The methods included focus groups (two), interviews (two), journaling, case study analysis, and visual analysis.

Analysis procedures were classified as quantitative and qualitative. Quantitative procedures were further categorized as (a) descriptive statistics such as means, frequencies, and percentages; (b) descriptive statistics and statistical tests such as t-tests, analysis of variance or covariance, and chi square; and (c) theory-building procedures such as regression and path analysis. Thirteen studies (32%) reported using descriptive statistics only. Sixteen research reports (39%), including the one empirical-analytical/interpretive study, utilized descriptive statistics and one or more statistical procedures; two of these studies combined statistical procedures with a qualitative component.

Five studies (12%) utilized theory-building statistics. These included four studies that used regression analysis and one that utilized path analysis procedures. The seven interpretive studies published in the volumes reviewed used qualitative analysis procedures exclusively.

Use of Theory

Twelve studies (29%) incorporated a strong theoretical or conceptual framework in the research design. This number includes two of the five studies previously identified as using

theory-building statistics, making a total of fifteen studies (37%) that utilized theory in some way. Bennett's model of intercultural sensitivity provided the theoretical framework for one study. Another developed and tested a theoretical model to explain voluntary simplicity as a life process, and a third utilized the parent involvement literature to develop a model for predicting parent involvement practices of family and consumer sciences teachers. Other theoretical frameworks included Brown's interpretive and emancipatory thinking and action, Holland's theory of vocational choice, Fuller's model of teacher development, and Shulman's framework of teachers' content knowledge.

Summary and Discussion

Research-based articles published in JFCSE between 1995 and 1998 represented 89% of the refereed articles, an increase from the previous six years when only 72% were based on original research. Consistent with the 1994 recommendation for increased collaboration and interdisciplinary research efforts, the number of authors who were not family and consumer sciences educators increased from 12% in 1989 to 47% in 1994; most were co-authors with family and consumer sciences educators. In contrast, only five (7%) of the authors were identified as graduate students, a decrease from 18% in 1994. One factor, which may help to explain both of these findings, is the well-documented decline in the number of family and consumer sciences teacher education programs. Currently, the Family and Consumer Sciences Division of the Association for Career and Technology Education (formerly the American Vocational Association) lists 168 programs that prepare family and consumer sciences teachers, compared with 217 in 1994 (National Directory, 1995, 2000). And as the number of teacher educators dwindles, there may be less time for research and publication and fewer opportunities for graduate student involvement in research and publication. Support for this view is found in the AAFCS listings of thesis and dissertations completed in family and consumer sciences education which show a decline from 37 in 1995 to 25 in 1998 (Kennemer & Ownbey, 1999; Lee & Johnson, 1996).

Although the increasing collaboration among family and consumer sciences educators and researchers in related disciplines is a positive finding, the more limited authorship by FCSE researchers is somewhat troubling. We should, of course, continue to encourage interdisciplinary research efforts. However, it is equally important to ensure that JFCSE continues to publish research that is directly relevant to FCSE. This goal can be achieved only if researchers in the field submit publishable manuscripts and collaborate with others who have similar research interests.

When classified by research topic, two categories accounted for more than 90% of the articles in Volumes 13-16, "Programming in Family and Consumer Sciences Education" (49%) and "The Field of Family and Consumer Sciences Education" (42%). A noteworthy difference from the 1994 analysis is that only three articles (7%) related to the priority issues identified in the 1996 Yearbook, compared to 21 (39%) in the previous six volumes. This finding may suggest that research published in JFCSE is becoming more narrowly focused and/or that many of the priority issues identified in 1996 are no longer relevant. (It is noted that Praxis articles did address several of these priority issues, e.g., occupational preparation, youth and families at risk). The three articles in the current analysis related to the shortage of family and consumer sciences teachers addressed a critical issue identified by the American Association of Family and Consumer Sciences in 1996 (AAFCS Senate, 1996).

Further comparison with the 1994 analysis revealed an increase in the percentage of empirical-analytical studies, 74% to 80%, and a slight decrease in the use of the interpretive framework, from 20% to 17%. The critical inquiry framework was not represented in Volumes 13-16. The current analysis suggests a renewed reliance on the empirical-analytical research paradigm. It appears that Couch and Felstehausen's 1994 recommendation for continued use of alternative methodologies has not materialized.

The primary methodology used in the empirical-analytical studies was descriptive, with only one of these studies classified as pre-experimental and one as historical. As in the previous six volumes, the survey was the most frequent method of data collection. Likewise, descriptive statistics and statistical tests including t-tests, analysis of variance, and chi square continue to be the major statistical procedures used.

The trend toward qualitative methodology, noted in the 1994 analysis, continued to be reflected in Volumes 13-16. All of the interpretive studies used qualitative data collection and analysis procedures, and several of the empirical-analytical studies had a qualitative component. Gay and Airasian (2000) have suggested that the growing enthusiasm for qualitative inquiry stems from dissatisfaction with using traditional methods to investigate problems that do not lend themselves to numerical analysis. The rationale supporting qualitative methods is the belief that human behavior is significantly influenced by the environment in which it occurs (Gay & Airasian, 2000), a view that seems particularly relevant for family and consumer sciences education.

There is evidence in Volumes 13-16 that Couch and Felstehausen's call to strengthen the interaction between theory and research has been heard. Fifteen studies (37%) utilized theory in the current analysis, compared to only 19% in the previous six years. These included five studies that utilized theory building statistics, the same number as in the earlier analysis. It should be noted that only two of the current studies using theory-building statistics demonstrated a real interaction between theory and research, that is, they used research to test, extend, or modify existing theories or used the research results to propose new theories, as suggested by Babbie (1989).

There are numerous challenges facing FCSE researchers in the new millennium. As FCSE programs are merged with other academic units and our numbers decrease, workloads become more demanding and little time is available for research and publication. This comes at a time when many colleges and universities are placing added emphasis on external grants and research productivity. These changes in the academic community reinforce the critical need for us to support and mentor new researchers as they enter the field. One way to accomplish this is to collaborate with graduate students and new faculty on research grants and ensure that they are encouraged to participate in publishing the results.

Action research, an emerging trend in educational research, offers another opportunity to expand the boundaries of FCSE research efforts. Action research is practical research done in the "real world" by practitioners to address their own needs, problems, and concerns (Gay and Airasian, 2000). As Peterat (1997) has suggested, action research allows us to "…reflect on our everyday professional practices, honour the inextricable connections between theory, research and action." (p. 122) Currently action research is seldom published in peer-reviewed journals. We suggest that the Praxis section of JFCSE could offer practitioners a forum for communicating action research results to a wider audience. If this were done, a change in editorial policy would be in order so that Praxis articles would undergo peer review.

Although JFCSE has served as a primary outlet for the publication of research in family and consumer sciences education for nearly two decades, FCSE researchers publish in a variety of journals. It would be useful to conduct similar analyses of publications, such as the *Journal of Family and Consumer Sciences*, the *Family and Consumer Sciences Research Journal*, and the *Journal of Vocational Education Research*, to determine if the research published in JFCSE is representative of the field.

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THE EFFECTIVENESS OF NUTRITION INSTRUCTION ON STUDENT NUTRITION KNOWLEDGE AND FOOD CHOICES

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This quasi-experimental study used a pretest-posttest design to determine the effects of fourteen hours of nutrition instruction on nutrition knowledge and food selection of high school students. Nutrition knowledge was measured by a 57-item test. A food selection chart allowed numbers to be assigned to subjects' choices of foods for one day. Multiple regression analysis indicated students who received instruction in nutrition scored significantly higher on the nutrition knowledge posttest than students who did not receive the instruction. No significant difference was found in food selection between the two groups. A conclusion was that nutrition education does improve knowledge of nutrition; however, it does not seem to greatly influence food choices.

Through healthy eating habits, certain diseases and disorders such as heart disease, cancer, high blood pressure, diabetes, dental complications and gastrointestinal disorders can be prevented or at least positively influenced (Keon, 1997). According to Peterson, Kris-Etherton, and Sigman-Grant (1994), healthy eating habits adopted in childhood may facilitate healthier eating habits in adulthood. Adolescents often lack the knowledge and experience necessary to make adequate evaluations and may adopt ill-conceived diets (Rickert, 1996). In addition, adolescents have greater freedom of choice and purchasing power than ever before. Societal changes, such as an increase in television watching, a decrease in school physical education requirements, and a decrease in energy expenditure among adolescents (Achterberg & Shannon, 1993) also contribute to poor eating habits.

Adolescents often face enormous peer pressure, especially where food choices are concerned (Barber, 1995). Americans, in general, have the idea that being thin is healthy; this obsession is perpetuated by the media at the expense of many Americans' health (Ryan, 1995). "Dieting is a common trend among Americans despite the fact that long-term weight loss seldom results from dieting" (Girouard, Hunt, Pope & Tolman, 1997, p. 55).

Nutritional requirements and dietary behavior change dramatically during adolescence, creating a nutritionally vulnerable population (Rickert, 1996). Between five percent and ten percent of adolescents in the United States are obese and a much greater percent are overweight (Achterberg & Shannon, 1993). An analysis of high school students' diets showed that they were more than meeting recommended dietary allowances (RDAs), consuming more food energy then necessary (Fierke, 1995). Specifically, students consumed more protein, fat, and sodium than is recommended (Fierke).

Nutrition education is defined as "the means by which functional and scientific nutrition science is transmitted to the American public in a manner which leads to reasonable nutrition

behavior" (Kirk, Hamrick, & McAfee, 1980, p. 21). According to Hochbaum (1981), nutrition education programs can be evaluated most effectively by measuring three dimensions that include cognitive and affective changes, immediate behavioral changes, and long-term behavioral effects. Using these criteria, effectiveness of nutrition education programs provided in secondary schools has been documented in some cases (Contento, Manning, & Shannon, 1992; Hochbaum, 1981). As a result of nutrition education, students' knowledge, attitudes, and behaviors have been improved. The one area that lacks evidence of significant change is long-term behavioral change (Hochbaum).

In order to improve nutrition education aimed at adolescents, James, Rienzo, and Frazee (1997) suggest that an understanding of adolescents' nutrition knowledge as well as adolescents' nutrition interests is crucial. In addition, the use of educational media and appropriate teaching strategies for adolescent audiences must be employed to capture the attention of teenagers. The purpose of this study was to determine the effectiveness of a nutrition unit on nutrition knowledge and food selection of students at a public high school in the south.

Method

The subjects for this study were 118 high school students who ranged in age from 14 to 18 years. Sixty-three subjects were white, 54 were black, and one was Hispanic. Ninety-eight subjects were females and 20 were males. Twenty-five subjects were in the control group and 93 were in the experimental group. Because experimental and control groups both the received the intervention, the teaching of a nutrition unit, during the normal rotation for the specific class, school officials permitted the research study without obtaining parental permission. The University Human Subjects Protection Review Committee approved the research study design.

The experimental treatment for the study was the teaching of a unit on nutrition. The nutrition unit, four weeks long, was a part of the curriculum for students taking Comprehensive Family and Consumer Sciences. The unit used materials from *Guide to Good Food* (Largen, 1991). A wide variety of teaching methods and tools such as crossword puzzles and group activities were used to help students understand nutrition concepts. For example, students completed a worksheet illustrating the similarities and differences of carbohydrates, proteins, fats, vitamins, and minerals. Students identified the functions of each nutrient and the sources of food in which specific nutrients could be found. There was also an activity in which students had to answer true/false questions about kinds of nutritious foods to purchase for their personal consumption. A food analysis chart was devised to assist students in determining whether or not their food choices were nutritious. Students kept a food diary for 24 hours and then analyzed their choices according to nutrients necessary for persons their age.

The instruments for this study consisted of a nutrition knowledge test and the food analysis chart. The nutrition knowledge test was an objective test taken from the instructors' guide to *Guide to Good Food* (Largen, 1991), and was used as both a pretest and a posttest. The test contained 20 true/false, 15 multiple choice, and 22 matching items for a total of 57 objective questions. All test items were weighted equally. The internal consistency reliability of the test of nutrition knowledge was found to be .99 using Kuder-Richardsons Formula 21 (Fraenkel & Wallen, 1996).

The food analysis chart scored subjects on the foods that they ate during a 24-hour period. The food analysis chart required the subjects to write in the kind of foods eaten and the quantity of each food eaten. Additional space allowed students to analyze specific nutrients such as proteins, carbohydrates, and fats in each food. To measure nutrition selection, a standard diet

analysis was employed. Subjects received a score of one if their food analysis revealed a diet of less than 700 calories from nutritious sources. Subjects received a score of ten if their food analysis revealed a diet of 1200 calories from nutritious sources. Scores ranged from one to ten on the food diet analysis.

Information on knowledge of nutrition and food selection was gathered on both the experimental group and control group subjects prior to the treatment. Following the experimental group's treatment, the test of nutrition knowledge was again administered to all the subjects and again all the subjects completed the food selection chart. The control group, who had received a different unit during the experimental group's treatment, then received the nutrition group instruction.

Results

In this study it was hypothesized that there would be significant difference in nutrition knowledge and food selection between students who received and students who had not received nutrition instruction. The .05 level of significance was used in each analysis. The means and standard deviations of the pre- and posttest knowledge of nutrition scores and pre- and posttest food analysis indicate similarities between the groups on the pretests. The groups appear to differ on the posttests.

Table 1
Means and Standard Deviations

	Experimental Group			Control Group		
Measurement	M	SD	n	M	SD	n
Pre-test	40.32	9.86	93	38.28	8.77	25
Posttest	54.37	13.80	93	39.24	6.79	25
Pre-food analysis	2.82	1.99	93	3.24	2.08	25
Post-food analysis	4.01	2.59	93	2.52	2.86	25

Note. Pre-test = Pre-test of nutrition knowledge, Post-test = Posttest of nutrition knowledge. Pre-food analysis = Pretest of food analysis, Post-food analysis = Posttest of food analysis.

Hierarchical regressions were used to test the effect of treatment on posttest knowledge and posttest food analysis while controlling for pretest knowledge and pretest food analysis. The multiple correlation for Model 1-Knowledge, between scores on the posttest (test of nutrition knowledge) and the predictor variables, pretest, and pre-test food analysis was .525 (Table 2). The variance in scores of the predictor variables accounted for approximately 28 percent of the variance in scores on the test of nutrition knowledge. The change in the variance accounted for by including the experimental/control group variable was 15 percent (Model 1-Knowledge). The effect size of instruction in nutrition on the adjusted posttest scores of the knowledge of nutrition test was 1.384. Results indicated significance for treatment on food knowledge ($p < .001$).

The multiple correlation for Model 1-Food Analysis between scores on the post-food analysis and the predictor variables, pretest, and pre-food analysis was .177. The variance in scores of the predictor variables accounted for approximately three percent of the variance in scores on the post-diet analysis. The change in the variance accounted for by including the experimental/control group variable was only one percent (Model 2-Food Analysis). The probability of a change this large was .173. There was only a slight change in scores on the food

diet analysis instrument as a result of instruction in nutrition (three percent to four percent). There was no significant effect for treatment on food diet analysis (p = .250).

Table 2
Model Summary for Posttest Nutrition Knowledge and Post-diet Food Selection

Model	R Square	R Change	R Square Change	F	df	P of Change
Posttest Nutrition Knowledge						
1	0.525	0.276	0.276	21.915	2/115	0.000*
2	0.654	0.428	0.152	30.287	3/114	0.000*
Posttest Food Analysis						
1	0.177	0.031	0.031	1.863	2/115	0.160
2	0.206	0.043	0.011	1.337	3/114	0.250

Note: Posttest-Knowledge Model 1 predictors: Pretest, Pre-food analysis; Criterion: POSTTEST: Model 2 Predictors: Pretest, Pre-food analysis. Exp/Control: Criterion: POSTTEST Nutrition Knowledge; Posttest Food Analysis Model 1 Predictors: Pretest, Pre-food analysis: Criterion: POSTFOOD ANALYSIS; Model 2 Predictors: Pretest. Pre-food analysis. Exp/Control: Criterion: POSTTEST FOOD ANALYSIS.

Limitations of this research must be addressed before continuing with the discussion. The non-equivalent control group design (Campbell & Stanley, 1963) presents possible barriers to internal and external validity and, therefore, do not permit testing of a causal model. The test of nutrition knowledge used in the study (Largen, 1991) accompanied the textbook; reliability and validity information is not available. The one-day food analysis may not accurately measure typical food intake. Finally, results are based only on scores from the pretest and posttest of nutrition knowledge and pre-food analysis and post-food analysis.

Discussion and Implications

A major finding of this study was that students who have instruction in nutrition gain knowledge about nutrition. Students in the experimental group had significantly higher posttest scores on the test of nutrition knowledge than students in the control group. The effect size (1.384) indicated a substantial gain in knowledge of the experimental group subjects as compared to gain in knowledge of the control group subjects.

A second major finding of this study was that although students showed improvement in nutrition knowledge, they showed little improvement in food selections. The scores of students, who received instruction in nutrition, were no better on the food selection instrument than the scores of students in the control group, who did not receive instruction in nutrition. It appears that knowledge by itself is not enough to produce change in food choices. This finding is consistent with current literature in the field (see Barnett & Johnson, 1996). Apparently, there are a number of other variables that play a role in food selection. Among these are peer influence and/or acceptance, convenience, taste, and accessibility both at school and in the community.

Because proper nutrition is thought to assist in the prevention of heart disease, cancer and diabetes, and is thought to assist in cognitive development, development of strong bones and maternal and fetal health during pregnancy (Brech, 1996), nutrition education in secondary schools is imperative. Without nutrition education, students are left to learn about nutrition on their own and many suffer the consequences of this lack of knowledge. Therefore, nutrition education must include transformative learning experiences (Mezirow, 1995) so that behavior change in food selection occurs.

Thus, further research on effective ways to implement behavior change in adolescent's food selections is warranted. Adolescents experience life in a rapidly changing society that requires them to make many distinctly different decisions. Their belief systems guide their actions (Mezirow, 1996). Thinking systemically, their belief systems are influenced by the cultural beliefs, values, and attitudes of society in general and family members in specific. Institutions and ecological circumstances, such as neighborhood, mass media, the economy, governmental agencies, and social networks also influence their actions. Family interactional patterns and events influence actions as well as the actual systems in which adolescents interact (Bronfenbrenner, 1977). Adolescents are in a transition between seeking guidance from parents and mentors/other leaders (Erikson, 1997). Peers are a tremendous influence on adolescents' actions (Erikson, 1963). In addition, adolescent egocentrism and the concept of imaginary audience in which adolescents confuse their own thoughts with others' thoughts (Elkind, 1988) present unique challenges to family and consumer sciences teachers. Implementing a systemically designed nutrition education curriculum that helps students use their prior interpretations of events and concepts to form new or revised interpretations of their experience may be helpful in guiding future actions (Mezirow, 1996).

Thus, using adolescents' context and developmental characteristics to motivate change may produce desired results. Bandura's (1977) work indicates that prestigious, successful, powerful models attract attention. Thus, soliciting persons who adolescents identify as leaders to model nutritious selections may be helpful in any educational curriculum. Family rituals related to food selection and eating habits could be re-ritualized, incorporating healthy food selections and eating patterns into the family system (Imber-Black, 1999; Wolin & Wolin, 1993). Finally, interventions that help students accomplish personal goals (Covey, Merrill, & Merrill, 1994; Covey, 1989), such as being a stronger athlete or healthier partner, are worth exploring for incorporation into nutrition education curriculum.

Strategies to consider, in addition to nutrition instruction, include laboratory exercises involving problem-solving dilemmas (Mezirow, 1994). For example, writing vignettes of adolescents with similar characteristics that present situations involving peer pressure to eat foods that are not nutritious could provoke excellent discussion and reflection. Instruction also could require students to figure the nutritional value of their most recent meal at a fast food establishment and how their choices affect overall nutrition needs. Dialogue among students and young persons who are suffering the consequences of poor nutritional habits and subsequent group and private reflection may be helpful. Discussion and reflection activities help students make connections to personal dilemmas and sort out information that may not fit their present meaning schemes (Mezirow, 1990).

The results of the present study indicate that the knowledge students receive from secondary nutrition units of study may need to be supplemented so that students learn to select and eat healthier foods. Nutrition curriculum must incorporate instruction as well as motivate behavior change so that students make "an informed and reflective *decision* to act" (Mezirow, 1996, p. 164). This is transformative learning. Studies, such as the one presented here, are necessary to provide data when seeking federal funding for nutrition education programs. Nutrition education with the added component of behavior change will lead to reduced health care costs in the future and an improved quality of life for the students and generations to come.

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THE MANY FACES OF ENGAGEMENT, LEARNING GOALS, AND THE PRINCIPLES OF GOOD PRACTICE IN SERVICE LEARNING

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Many universities are embracing a broader definition of scholarship, one that entails not only the discovery and integration of knowledge, but also the application and dissemination of knowledge. This article defines service learning, lists potential learning goals for service learning, and outlines principles of good practice.

As we enter a new century, there are many societal issues influencing the culture of education. Uncertainty in employment, shifts in values, and more pressured lifestyles are affecting the way in which students approach their educational goals. Competing resources and societal problems are forcing the academic community to refocus its mission, draw upon and apply the findings of pedagogical research, and maximize available resources. Educators are embracing a broader vision of scholarship, one that entails not only the discovery and integration of knowledge but also the application and dissemination of knowledge. The new scholarship of engagement encompasses application and dissemination through outreach, community service, and service learning.

As educators and mentors, we assume the responsibility of sharing our knowledge and ideas. Students are looking to us to help them build the skills and talents necessary to be better citizens, gain employment, and advance careers. Additionally, we are developing minds by challenging our students through critical thinking and thought provocation. To new professionals in the field of education, this may seem like a daunting task. Indeed even a seasoned veteran of the traditional classroom might find fulfilling all of these responsibilities difficult. However, newly recognized pedagogy –service learning – seems to facilitate not only learning but also application and engagement of what has been learned in a setting that promotes citizenship.

Working Definitions

Many educators in the field of family and consumer sciences may rightfully assume that they already have service-learning components in place, and indeed many do. As a profession with many practical applications, we have often engaged our students in outreach programs. At the very least we have had some mechanism for students to gain on the job experience. We may have used the terms internship, practicum, or field study. In other situations, we may have had opportunities where we encouraged our students to engage in volunteer activities. All of these terms have different definitions. Therefore, before discussing service learning in depth, it is necessary to define "service learning" and similar terms.

Internships, field studies, and practicums usually involve the students performing work off-campus in the hopes of gaining in-depth practical knowledge that will enhance the students' understanding of the "body of knowledge" in their chosen discipline. Often this activity will lead to permanent employment.

A volunteer project or community service, on the other hand, usually has a minimal academic component. The purpose of this type of project is to get the students involved in the

community or an organization. Community service is giving one's time through an organized effort to serve the needs of the community. This can range from serving food to the homeless to tutoring children to working on a voter registration drive. In some situations, the courts may mandate community service, but most of the time it is a voluntary act of persons interested in improving their communities.

Service learning differs from an internship or volunteer activity in that there is course content integrated into the service. In essence, the student is learning while serving. The goal of this type of activity is to have the student master course content while applying this to the need of the community or non-profit agency. Students learn the course content as they apply this material in a real-world setting. Additionally, students also develop team building, programming, and communication skills. All of this occurs in a context in which students are exposed to citizenship and to giving back to their communities.

Bringle and Hatcher (1995) defined service learning as a credit-bearing educational experience in which students participated in an organized service activity that meets identified community needs and reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of civic responsibility.

Learning Goals for Service Learning

By its very nature, service learning is transformational learning – the intersection of the individual and society or the social environment (O'Sullivan, & Tennant, 1993). Mezirow (1994) referred to service learning as a transformation of perspective. This transformation occurs at various levels and by a variety of means. In a service-learning course students might be confronted or faced with disorienting dilemmas. Students will likely have their stereotypes challenged and their personal values questioned and they will be forced to "walk in another's shoes" as they become more aware of real life social problems.

Based on a national survey of service-learning students, Eyler and Giles (1999) reported that students participating in service learning develop

- A reduction of negative stereotypes and in increase in tolerance for diversity;
- Greater self-knowledge;
- Greater spiritual growth;
- Increased ability to work with others;
- Increased leadership skills;
- Increased feelings of being connected to a community;
- Increased connection to the college experience through closer ties to students and faculty;
- Increased reported learning and motivation to learn;
- Deeper understanding of subject matter;
- Deeper understanding of the complexity of social issues; and
- Increased ability to apply material learned in class to real problems.

Another reason to create a service-learning goal is to help students connect what they read and hear in the classroom with what they experience and observe in the community. Service learning should promote civic responsibility and address community needs, all the while instilling a life-long commitment to service.

Principals of Good Practice

Honnet and Poulson (1989) studied several service-learning programs in an attempt to determine principles of good practice. They concluded that an effective and sustained program

- Engages people in responsible and challenging actions for the common good;
- Provides structured opportunities for people to reflect critically on their service experience;
- Articulates clear service and learning goals for everyone involved;
- Allows those with needs to define their needs;
- Clarifies the responsibilities of each person and organization involved;
- Matches service providers and service needs through a process that recognizes changing circumstances;
- Expects genuine, active, and sustained organizational commitment;
- Includes training, supervision, monitoring support, recognition, and evaluation to meet service and learning goals;
- Insures that the time commitment for service and learning is flexible, appropriate, and in the best interest of all involved; and
- Is committed to program participation by and with diverse populations.

Conclusions

With appropriate rigor, a flexible instructional plan, appropriate community partnering, and specific learning goals set for the students, service learning is recognized as an effective and desirable pedagogy. Service learning is consistent with the teachings of Boyer (1996). He urged the academy to become a more vigorous partner in the search for answers to our most pressing social, civic, economic, and moral problems, thus reaffirming its historic commitment to the scholarship of engagement. Boyer spoke of creating a special climate in which academic and civic cultures communicate creatively with each other, while at the same time enriching the quality of life for all. Boyer was a strong advocate of the value of scholars and practitioners actively interacting with each other. This, is the essence of service learning.

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