USING READING IN CONTENT AREA STRATEGIES TO IMPROVE STUDENT UNDERSTANDING IN FAMILY AND CONSUMER SCIENCES

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This study assessed the effectiveness of using a pre-reading strategy in high school foods and nutrition classes. One class was randomly assigned to use the pre-reading strategy, while one did not use the pre-reading strategy. A pretest was administered. During the semester, both classes received the same instruction, with the exception of the use of the pre-reading strategy in the experimental group. A posttest was administered at the end of the semester. The t-test for independent samples showed no significant difference in mean gains on test scores between the two classes.

Teachers assume that students learn most from context material, primarily content area textbooks. However, most research suggests that textbook reading is not as prevalent as assumed, and most students depend on the teacher, not the textbook, as their primary source of information (Armbruster, Anderson, Armstrong, Wise, Janisch, & Meyer, 1991; Vacca, 2002). Because of the usefulness and validity of the information presented in the text, teachers feel they cannot abandon the textbook. Yet, many teachers become frustrated with students' apparent lack of critical reading skills and their inability to comprehend effectively from their texts (Allington, 2002; Barton, 1997). Since these teachers are not themselves trained in teaching content area reading strategies, many resort to telling their students what they need to know rather than requiring them to read the text. Instead of employing strategies that make use of active learning, many secondary teachers rely on passive approaches such as retelling and memorizing (Simpson, 1995).

Reading is a dynamic process in which the reader works actively to construct meaning from the material (Barton, 1997). Students need to have the abilities to adjust their reading to fit the type of material being presented. Effective readers are involved in the process of reading, actively looking for meaning. Ineffective readers play a passive role when reading, not connecting the text material with prior knowledge. Content area teachers can equip their students with strategies that will help them access and use background knowledge, text feature knowledge, and general knowledge gained from the world, or as some would call it, common sense knowledge.

Prior knowledge can act as a framework through which the reader filters new information and attempts to make sense of what is read (Barton, 1997; Jacobs, 2002; Vacca & Vacca, 1999). If students' background knowledge is well-developed and accurate, they will understand and remember more of what they read. Because of the usefulness of prior knowledge to comprehending, processing, and remembering new information, pre-reading strategies need to be used when reading in content areas.

Teachers can serve as catalysts for promoting interaction between students and the textbook information (Allington, 2002; D'Arcangelo, 2002; Neal & Langer, 1992). They can

help activate and organize students' prior knowledge about a topic and the text. When teachers know what students bring to their reading, they can purposefully choose strategies that connect the *old* and *new* of the text (Jacobs, 2002). These strategies can help clarify unfamiliar vocabulary and concepts, help students anticipate the text, and help them make personal connections with it, thus encouraging their interest, engagement, and motivation.

Pre-reading activities can include brainstorms; graphic organizers of students' background knowledge, including concept maps; or close exercises, during which students attempt to replace important vocabulary or concepts that the teacher has deleted from the text in order to draw attention to those points (Fisher, Frey, & Williams, 2002; Jacobs, 2002). SCAIT is another strategy used: S – select key words; C – complete sentences; A – accept final statements; I – infer from facts; and T – think at applied levels (Wiesendanger & Bader, 1992). In addition, the teacher or students may develop writing or interactive discussions regarding what students already know and what they need to know before reading (Jacobs, 2002). Such pre-reading activities not only prepare students to understand text but also help build students' vocabulary and study skills.

Purpose

The purpose of this study was to implement a reading in the content area strategy into a family and consumer sciences classroom. Theoretically the introduction of this strategy would increase the students' reading comprehension of the textbook materials. The increase in the knowledge gained from the textbook, along with the connections created by the pre-reading activities drawing on prior knowledge, would increase student understanding. With increased student understanding, test scores would improve. Thus, the hypothesis for this study was that there would be a significant gain in scores in the experimental group, the students who were exposed to the reading in content area strategy.

A pre-reading strategy, the anticipation guide, was utilized in this study. The anticipation guide, also called reaction or prediction statements, is a teacher prepared instrument. This type of interactive strategy helps students activate their prior knowledge by associating what they already know with new information presented in the text. The anticipation guide consists of five or more questions, usually true-false statements, related to the topic to be covered. These are short declarative statements that in some way reflect the world the students live in or know about, avoiding abstractions (Vacca & Vacca, 1999). These questions relate to the important factual concepts, not minor details in the reading. The students have an opportunity to react or predict the answers to the questions.

The use of the anticipation guide helps the teacher assess the amount of background knowledge possessed by the group. If more background knowledge is needed, a teacher can present this before the students read. With increased prior knowledge, students should be able to make associations with the material to be read, thus increasing understanding. The responses can also help the teacher correct any misconceptions the students may have about a particular topic. Correcting misconceptions can prevent students from making an inaccurate interpretation of the material presented in the textbook.

Anticipation guides can give students an idea about the material to be studied. It can motivate readers to want to know more about the topic, encouraging them to read. If the statements are challenging, students may discuss or debate the answers. Students who are a part of a discussion become active learners and are more likely to have a positive reading experience.

Students who have predicted answers bring expectations to the reading. The value of the anticipation guide lies in the discussion before reading.

Methodology

The participants in this study were high school students from two foods and nutrition classes taught by the same instructor. Each class was composed of freshmen through senior level students. Because the students were assigned to their classes by the school's computerized scheduling program, the groups were not truly randomized. The designation of groups, experimental and control, was randomly assigned.

Before completing assigned reading in the text, the experimental group was given anticipation guides that consisted of five to eight questions related to the main factual concepts of the reading. The students were first asked to respond individually to the questions and then to pair up with another student to compare and discuss answers. After working together in pairs, the students came together as a large group to discuss the questions. The students were given an opportunity to present the reasons they felt their answers were correct and to predict the subject matter of the reading. The students were then asked to read the text. After reading, students were asked to correct any misconceptions or wrong answers on their anticipation guides. The following is an example of an anticipation guide used in this study.

Foods and Nutrition
Chapter 19, Meats, Poultry, and Seafood
Anticipation Guide

Directions: Before reading the chapter, check the items you think are true in the "Before" column. Then as you read, circle those that are correct. Check any others you find are true in the "During Reading" column.

Before Reading			During Reading	
Agree	Disagree		Agree	Disagree
_____	_____	1. Of beef, pork, chicken, and fish, pork usually has the most saturated fat.	_____	_____
_____	_____	2. Elastin is the fiber that holds meat together.	_____	_____
_____	_____	3. Seafood refers to fish that comes from salt water.	_____	_____
_____	_____	4. All beef and pork can be eaten rare or medium rare.	_____	_____
_____	_____	5. It is okay to stuff poultry ahead of time to save time on the day of cooking.	_____	_____

Instead of using the anticipation guide, the control group was given a brief overview of the reading by the teacher including the main ideas in the chapter or section. The group was asked to complete the vocabulary and end of chapter questions. All other instruction provided to the experimental and control groups was the same. This instruction included group work, demonstration, videos, foods labs, and worksheets. In addition, the two groups spent the same amount of time on each unit of study.

The instrument used to measure student achievement in this study was the North Carolina standardized VoCats (Vocational Competency Achievement and Tracking System) pretest and posttest for foods and nutrition. Pretests and posttests are generated by the state and are

administered according to the policies of the State Department of Public Instruction. For this study, the students were given the pretest on the second day of classes, and the posttest was administered at the end of the semester.

Discussion and Findings

A total of 31 students completed both the pre- and posttests. Scores of students who were pre-tested and dropped the course during the semester were not used. Likewise, scores of students who completed only the posttest were not used.

T-tests for independent samples were used to determine whether the experimental group and control groups differed regarding their pretest scores. The experimental group had a mean score of 43.20 with a standard deviation of 9.34 and a standard error of mean of 2.95. The control group had a mean score of 39.62 with a standard deviation of 13.85 and a standard error of mean of 3.02. Levene's equality of variance was $f = 1.197$ and $p = .283$. The test for the equality of means had a 2-tail significance of 0.466. No significant difference in the pretest scores of the two groups was shown, so it can be assumed that at the beginning of the study the two groups had the same level of knowledge.

A comparison of the mean pretest scores and posttest scores was made using the t-test for independent samples. The difference in the pretest and posttest scores for the experimental group showed a mean of 21.20 with a standard deviation of 12.12 and a standard error of mean of 3.83. The control group had a difference of the mean scores between the pretest and posttest of 19.48 with a standard deviation of 8.69 and a standard error of the mean of 1.90. Levene's test of equality of variance between the two groups was $f = 2.144$ with a significance of 0.154. The t-test of equality of means had a 2-tail significance of 0.653.

The hypothesis was that there would be a significant gain in scores in the experimental group, the students who were exposed to the reading in content area strategy. The null hypothesis, that there would be no significant difference in the two groups, was accepted. There was no significant difference between the scores of the experimental group and the control group.

In this study, traditional reading strategies were as effective as the reading in content strategy used in this study. In the review of recent literature, reading in content strategies were used to improve reading skills and not specifically to raise test scores. This research assumed that improved reading skills would lead to improved test scores, but this was not proven. A test to assess the improvements of students' reading of content was not completed.

The findings of this study suggest that perhaps a variety of reading in content area strategies should be used, rather than using only one strategy as in this study. Also using these strategies over a period longer than a semester might give different results.

Some time was needed to familiarize students with the pre-reading strategy to accustom them to relying on their prior knowledge to answer preliminary questions. The students in the experimental group wanted to use the book to look up the answer without reading. It took time to accustom the students to rely on their own knowledge and not worry about the grade they would receive on the anticipation guide. Without a grade, the students tended not to respond and not to work on the guide when it was given to them. This seemed to be the most difficult concept for the students to grasp. However, once the students were accustomed to the anticipation guide, they began to discuss and analyze answers.

Summary and Implications

The findings of this study indicate that further research in this area is needed to determine the effectiveness of reading in the content area in family and consumer sciences classrooms. Involving more family and consumer sciences classes for a longer duration, specifically a year or more, would increase the number of participants. Once strategies were implemented, students would not need the time to become accustomed to the different approach to reading material.

Research about the effectiveness of the different types of strategies could help determine the most effective strategies to use with high school students in family and consumer sciences classes. This study used only one reading in content area strategy which was particularly suited to a foods and nutrition class. However, there are many other strategies that are available for use by teachers at the middle school and high school level. If teachers were made aware of reading in content area strategies, given some instruction, and urged to implement the strategies in their classrooms, the students' reading skills might increase. Workshops and inservice training related to content area reading strategies could be made available to teachers. These would most likely be well received if they provide useful information and apply to teachers' particular situations.

In talking with colleagues and reviewing recent literature, it was clear that the lack of reading and comprehension of material by students is a concern of teachers. Some systems in the state of North Carolina have implemented these strategies, and all teachers are given training. With the emphasis on test score improvement, teachers are beginning to realize that teaching reading does not stop in the elementary grades. Teaching reading is the job of all teachers, regardless of the subject area or grade level they teach.

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TEACHING FROM THE CRITICAL THINKING, PROBLEM-BASED CURRICULAR APPROACH: STRATEGIES, CHALLENGES, AND RECOMMENDATIONS

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This article describes professional development efforts in a large, Midwestern state that aimed to enhance teacher's use of a critical-thinking, problem-based curricular approach in family and consumer sciences (FCS). A total of 25 Teacher Leaders who self-selected to continue in a professional development Teacher Leader Institute for follow-up sessions in fall 2000 and spring 2001 and complete a mailed questionnaire in 2002 are the participants whose discussions and reflections are included in this study. Their perceptions of their success in using the techniques, and ongoing challenges are discussed. Recommendations include 1) teachers' need a solid understanding of the critical thinking, problem-solving approach and the value it has for themselves and their students; 2) teachers must learn to think critically and model and practice the techniques consistently with students; and 3) support and continued professional development for current and future teachers in the critical thinking, problem-solving approach is needed.

Critical thinking is an important life skill for people today. Teachers need to model critical thinking skills to their students and explicitly teach them to think critically. Teachers can be transformed in their teaching and students can be transformed in their learning through continued, consistent use and application of critical thinking skills. Family and Consumer Sciences (FCS) teachers have been learning, practicing, and modeling the critical thinking, problem-based curricular approach for some time. This study shares FCS teacher leaders' perceptions of their success in modeling and teaching from the critical thinking, problem-based perspective, examines their perceived challenges in implementing the new approach, makes recommendations for the future, and ties their perceptions to recent literature on critical thinking, transformative learning, and constructivism.

Purposes and Research Questions

This article describes professional development efforts in a large, Midwestern state that aimed to enhance teacher's use of a critical-thinking, problem-based curricular approach in family and consumer sciences. Questions that guided the study are

1. What are teachers' perceptions of their success in incorporating the critical thinking, problem based approach?
2. What are teachers' perceptions of the most important teacher behaviors in helping students develop critical thinking skills?
3. What are teachers' perceptions of the on-going challenges of implementing a critical thinking, problem-based curricular approach?

Related Literature

The study of thinking in education is still emerging, being developed and practiced by educators and students. According to Beyer (1987) critical thinking goes beyond problem-

solving, by using both "analysis and evaluation" when examining beliefs and making judgments. (p. 33). Kegen (2000) describes two kinds of learning as a development process, "Informative: Changes in *what* we know…and Transformative: Changes in *how* we know" (p. 50). Change in curricular approach requires a new pattern of thinking, a new means of instructional planning and delivery, and a new way of learning for students. Marlowe and Page, (1998) describe constructivist learning as a procedure that includes questioning, filtered through our experiences, that then modifies our comprehension.

Constructivist techniques require the use of critical thinking. Kauchak, Eggen, and Carter (2002) describe constructivism as a way for teachers to use a variety of different experiences for students that is in contrast to a more traditional philosophy of education, the teacher as all knowing. Constructivism involves a shift of ownership of the learning from the teacher to the student; the teacher no longer directs and feeds information to the students, but now opens the door so that students can discover information and construct their own learning. Marlowe and Page (1998) note, "Constructivism is about thinking and the thinking process rather than about the quantity of information a student can memorize and recite" (p. 11). The constructivist approach focuses on "real-world tasks and the central role of the individual in determining reality and promoting learning" (Kauchak, et al., p. 195).

Family and consumer sciences (FCS), itself an integrative discipline, supports use of critical thinking and a problem-solving perspective. FCS integrates content knowledge from the sciences, the issues of individuals, families, and the community, and the balance between work and family roles, all of which set the stage for multiple uses of critical thinking and problem solving techniques (Rowley, 1998). The ultimate goal is to have students use critical thinking by identifying problems, asking questions, examining problems in context, determining the consequences for themselves and others of possible actions to solving the problems, and transform their learning – be emancipated by it – to make sound decisions in their day to day activities in real life. It is important to understand adolescents, their behavior, and how they interact with their near environment. Rowley makes the connection between students' sense of self worth and their social dimensions, and how that contributes to self value and motivation to use critical thinking skills to solve problems. FCS is unique in its approach and applicability as it focuses on issues of every day life, the context within which problem solving occurs, making learning relevant.

The three curriculum models in FCS are the technical skills model, interpretive communication model, and the critical thinking for ethical action model (Rowley, 1998). Fox and Laster (2000) describe practical reasoning as the foundational theory and thinking model for teaching FCS. In addition to scientific reasoning, practical reasoning includes a need to act on issues. It is more than observation, but includes participation in the solving of reoccurring problems and issues of life that are faced by individuals, families, and communities and is described as the reasoning for action standard. This is foundational to the new National Standards for Family and Consumer Sciences (NASAFACS, 1998).

Williams (2005) discusses the importance of pre-service teachers using critical thinking skills and teaching them to their students, and the larger potential this may have to "help us effectively address the challenges we are facing as a nation" (p. 164). As Ley (1998) writes, "By building our repertoire of thinking skills in the living of our daily lives, we are able to move beyond purely technical means to address life's concerns toward emancipatory critical science action that transforms society for us all" (p. 252). Gabler and Schroeder (2003a) described the need for persons to have critical thinking skills as "vital to those living in a democratic society"

(p. 19). This movement towards a practical reasoning, critical thinking approach requires development of curriculum that fits this mode of inquiry.

Teaching critical thinking skills to students requires teachers themselves to be competent in using higher order thinking skills. Williams (2005) promotes this idea as essential for teacher educators to teach pre-service teachers who can then model critical thinking to their students. Williams further clarifies that there is a difference between having a disposition to be a critical thinker versus having the ability. Teachers in FCS are assisted in the development of these skills by using questioning skills and by teaching their students to write critical thinking questions. The National Standards for Family and Consumer Sciences (NASAFACS, 1998) uses process questions in four areas – thinking, communication, leadership, and management – and integrates these process questions with content areas. These questions "are based on three interrelated systems of action that individuals and families use to address the issues they face. Technical actions . . . interpretive actions . . . [and] reflective actions" (Fox, 2000, p. 15). Process questions guide the learner and encourage them to construct knowledge. Ashby, Conkin, and O'Connor (2000) are teachers who have implemented process questions in their FCS problem-based curriculum. They describe it this way

> As a teacher, I begin to develop process curriculum by looking at the topic, theme, or concept of the curriculum and developing questions that will challenge the students to begin thinking about how this curriculum impacts them personally . . . Questions allow students to think about what they are learning and reflect on the information, making it relevant. This does not happen overnight. It evolves as the teacher consistently teaches using process curriculum. (p. 213)

A practical problems approach is developed throughout the planning and implementation of instruction and is constructivist oriented (Thomas, 1998a). Gabler & Schroeder (2003b) describe it as "an active process emphasizing purposeful interaction and the use of knowledge in real situations, otherwise known as authentic learning" (p. 4). Using practical everyday problems posed to students, along with process questions, FCS teachers engage students in critical higher order thinking as they examine the rich context of problems and address consequences of choices. This helps students make wise decisions and practice transferable critical thinking and problem-solving skills. The intent is to give students the tools wherewith they can then make responsible choices and take ethical action when dealing with practical problems within their own lives as individuals and members of families and communities.

Description

The Teacher Leader Institute was developed to prepare family and consumer sciences teachers in a large Midwestern state to incorporate critical thinking and process skills into their classrooms. This began with state wide in-services, summer conference sessions, and specialized training workshops starting in 1996 which developed into a Teacher Leader Institute. In 1996, the state purchased six of the different curriculum guides for their FCS teachers from the Ohio Work and Family Life resource guides.

A total of ten different workshops or sessions were conducted over this period of years focusing on authentic learning and assessment, use of higher order thinking skills, and practical problem solving techniques. Some of the topics for sessions included "Developing Curriculum for Family and Consumer Sciences," "Assessment Using a Problem-Based Curriculum," and "Implementing National Standards." Modification of state curriculum guides and standards to

crosswalk to new National Standards of FCS, adopting of the Ohio curriculum guides built on the critical thinking problem solving perspective, and training to use the guides were all part of the state's in-service activities and Teacher Leader Institute. The Teacher Leader Institute is modeled after that used in Virginia and Ohio (Arendt, Boggs, & Glasscock, 2000).

Participants

The most recent Teacher Leader Institute workshop sessions held at a resort location, central in the state, included 25 teacher leaders from throughout the state's six regions who came together for two 2-day sessions in September 2000 and April 2001. Most of the teacher leaders that participated in these two sessions had attended the prior sessions since 1996, had a solid foundation in the theoretical knowledge and background, and had access to new curriculum guides and practice in implementing them. The workshop sessions were developed and implemented within a critical thinking problem-based curricular approach with input from state FCS director and staff. Techniques modeled in the sessions included authentic problem-based strategies, using critical thinking questioning, and reflective writing. These were practiced using a variety of individual, small and large group activities. Critical thinking was discussed from many perspectives, and teacher's examples of new materials were also examined and best practices shared.

In July 2000, through a reorientation, the teacher leaders self-selected to continue with the Institute, signed contracts with the state, and obtained the support of their school administrators to commit to the fall 2000 and spring 2001 sessions. Although the teacher leaders had been applying the new approaches in their classrooms, they admitted to inconsistency in their methods, struggles with getting the students engaged, some discomfort in modeling critical thinking, and expressed a need for updating. A concern expressed by a majority of the group was their discomfort with teaching thinking skills explicitly and separately rather than infusing or mixing them within content matter. The agenda for the fall session included the topics "Implementing Critical Thinking and National Standards," "Teaching Process Skills: The Foundation for Problem-Based Learning," and "Constructing Authentic Assessments for Problem-Based Learning in Family and Consumer Sciences."

The spring session focused on teachers' sharing their experiences using the techniques, their on-going challenges in teaching thinking to students, and their continued understanding through application as they integrated critical thinking and practical problem solving techniques. Teachers brought lesson plans, teaching activities, and ideas to share at both the fall and spring sessions. One of the key session topics for the spring session was "How to Make the Most of your Role as a Family and Consumer Sciences Teacher Leader."

The original purpose of the Institute included the intent that the teacher leaders would then teach what they have learned to others across the state. Developing goals for taking on their leadership role was an outcome of the spring session. Teacher leaders saw their leadership development as an integrated process with their own personal development. Their goals focused on three areas: provide training sessions for other teachers, network and mentor other teachers, and incorporate new curricular approaches in their classrooms. The leadership development of the teacher leaders from their participation in the Institute was reported separately (Mimbs, 2002). The 25 Teacher Leaders who self-selected to continue in the Institute for follow-up sessions in fall 2000 and spring 2001 are the participants whose discussions and reflections are included in this study. A brief follow-up questionnaire of these participants was mailed in June 2002 and is also summarized here.

Data Collection, Preparation, and Analysis

During the large group sessions of the workshops, the following were collected: teachers' perceptions of the reasons for teaching critical thinking; the roles, attributes, and challenges of the process; and the classroom environment and resources needed to be effective. The teachers' individual reflection activities that were used as transitions between and closures to workshop sessions focused on four open-ended prompts:

1. Why is it important to teach thinking skills?
2. What teacher behaviors seem to be the most important in helping students develop critical thinking skills?
3. Even with practice implementing a critical thinking skills curriculum and problem-based approach, I am still challenged with?
4. When I think about directly teaching a practical problem solving unit in my classroom, will I do it differently now? How?

Teacher leaders' responses to the open-ended prompts were tabulated based on their use of key words and phrases. This was accomplished by reading and rereading the sections of text for individual words and phrases to be examined for similar meanings and repetitive use. Themes became evident and are shared here for each reflective prompt. Finally, a follow-up questionnaire was mailed to all teacher leaders in June 2002, and its focus was to determine the teachers' perceptions on how well they met their goals which they set at the spring 2001 follow-up session for leadership, mentoring, and professional development.

Discussion of Teachers' Perceptions

A revisit to the literature to clarify the collected anecdotal data and the triangulation of several data collections points (workshop sessions notes, written responses to reflective prompts, and written responses on follow-up questionnaire) adds substance to the discussion of findings and implications for making recommendations and is included here.

Group Sessions Summary

The teacher leaders shared many reasons for teaching critical thinking, with an emphasis on how it benefits the students. Some of their thoughts include

> helps students appreciate and value others and their opinions, and helps them defend and justify their positions; creates more independent thinking; empowers students and allows them to use their own learning style; creative and thought provoking; life-like; forces self evaluation; taking ownership in life.

Teacher leaders assigned the following roles and attributes to critical thinking: "Don't be passive; requires questioning; examine the evidence; specify, look for and consider alternatives; avoid oversimplification; look for errors in arguments; attempt to conquer biases and go beyond the obvious." Browne and Keeley (2001) illustrate critical thinking and the use of questioning as having an "awareness of a set of interrelated critical questions"; then to have the "ability to ask and answer critical questions at appropriate times"; and thirdly, the "desire to actively use the critical questions" (p. 2). Identifying the problem, issue, is at the heart of critical thinking. What is it that you need to know and how do you know the conclusion you come to is relevant, applicable, and appropriate? How can you then evaluate the information? It requires using critical questions (Browne and Keeley).

The environment for best practice experienced by the teacher leaders was described as "active, noisy, productive, with an informal structure, with more of a team approach that is student oriented driven and owned." Gabler and Schroeder (2003b) agree. The constructivist classroom is an active environment that at first "may appear to lack structure" and some may wonder if learning is happening (p. 202). Problem-solving is by its nature an interactive approach. Sharing ideas with one another requires dialogue between and among students and teacher (Marlow and Page, 1998). The teacher's role is more of facilitator and collaborator, to help channel and propose ideas, show the way(s), and evaluate success of students as well as to "provide direct instruction" (p. 57).

New textbooks that use problem-solving and critical thinking, extensive use of the internet, the new state implementation guide, national standards, and adopted curricular guides were all mentioned by the teacher leaders as resources for teaching from this perspective. Participants described the importance of adopting a problem-based curricula approach as a way to enhance life skills. They were concerned that for those who do not know how to problem solve, it will be more difficult for them to stay competitive in a global market. The teachers' perceptions of the problem-based approach were that it "addresses different learning styles; is user friendly; generates enthusiasm for the curriculum; and is valuable to students for coping skills." The constructivist classroom is a place where teachers can encourage students to consider topics that are relevant and important to them which help them use high order thinking skills (Gabler and Schroeder, 2003b).

Challenges of using critical thinking in the classroom created significant discussion among the teacher leaders. Some descriptions of the challenges in their own words include:

> Students don't buy into it; student fatigue; students interested in points only; takes time and effort; probe to go deep enough; lack of adequate resources; do we get the content in the process (teaching thinking explicitly rather than infused); teacher brain drain; taking various environment/home life situations into consideration; forces our creativity; assessment; access to resources; public opinion; brain block; negative resistance; changing paradigms for textbook/worksheet/questions; more effort (for teachers and students), alternative assessment; updating to critical thinking but has not changed impression others have of traditional technical skills based FCS.

Critical thinking skills require users to have multiple applications to be competent and as Beyer (1987) notes, students "must have repeated, instructive practice in it in a variety of contexts and media" (p. 178). Williams (2005) writes "critical thinking requires hard work; many students would prefer that teachers just give them answers to complex questions" (p. 182).

Open-ended Reflective Prompts

Why is it important to teach thinking skills? Four themes appeared as a result of analysis of the open-ended text responses to this prompt.

1. Developing critical thinking skills is a learning process.
2. Critical thinking is a necessary skill for life.
3. Critical thinking helps students solve problems and make decisions.
4. Students using critical thinking skills is not a given in today's society.

These four themes discovered in the teachers' responses to this open-ended individual reflective prompt can all be tied to the teacher leaders' responses in the group sessions to the

questions about roles, attributes, strategies, environment and resources, and challenges. There seems to be no question as to the value of the critical thinking, problem solving approach, but it does require significant time, resources, practice, and patience. This may be further complicated by a long standing tradition in FCS of a more empirical, technical skills based curriculum. The teacher leaders may struggle with their comfort with the well known more product oriented skills approach as they challenge themselves and their students in implementing the critical thinking approach (Fedje, 1999).

What teacher behaviors seems to be the most important in helping students develop critical thinking skills? The two themes discovered in the collection of the responses to this prompt are modeling and flexibility. The word model/modeling was used a total of 11 times by the teacher leaders in response to this reflective prompt. Modeling critical thinking seems to be harder for some teachers than others. One wrote it is a challenge "being an exciting and consistent example of a thinking person." Another wrote that there has to be "teacher belief in the process. They have to see that we believe in what we are doing." Still another described the process as "practice what you preach; if we are not totally comfortable using critical thinking skills we cannot make our students confident users." Gabler and Schroeder (2003b) wrote, " As you model for your students or set up modeling situations with students who model procedures for their peers, you are also teaching yourself what is required of you as a facilitator along with what is required of your students as active participants in learning" (p. 22). Teachers using the process skills of thinking, communication, leadership, and management through a problem-solving curricular approach know the importance of modeling.

The other key term used consistently was flexible/flexibility. Flexibility is a necessary part of the critical thinking approach in its constructivist nature, with teacher as facilitator, and student as active participant in the learning process. Flexibility is illustrated in these comments by the teacher leaders "willing to try new things, being open-minded, it takes time, not jumping in and giving too much help." Ayers (1993) describes the importance of this flexibility and encourages teachers to allow "opportunities for discovery and surprise" (p. 94).

Even with practice implementing a critical thinking skills curriculum and problem-based approach, I am still challenged with? Challenges are an ongoing concern for the teacher leaders in using this approach. The theme most often expressed was motivating students. It is the most consistent challenge expressed by the teachers. Teaching thinking within the context of FCS subject matter that is important to students may improve their motivation. However, teaching the thinking skills explicitly is also important (Beyer, 1987). The constructivist approach is important in motivating students; they are taking responsibility for their learning. Gabler and Schroeder (2003a) wrote, "Authentic learning can motivate those students who are bored, disinterested, or lacking necessary skills- the very students you might think could never do this" (p. 202).

Way and Nitzke (1998) discuss an infusion model for teaching critical thinking, and stress that critical thinking skills take time to develop and are difficult to measure. This was further illustrated in the teachers' responses regarding challenges. "They [students] have difficulty with the problem based approach. They want simple solutions or projects that don't require much effort." It is about getting them to see the value of thinking which requires modeling.

Providing guidelines for students to use in solving problems as well as more in-depth background information for scenarios were also mentioned several times. A reoccurring theme which challenged the teachers was their perceived need for developing authentic assessment techniques to show students' mastery of thinking and problem solving skills. The time involved

in teaching this approach and in developing and implementing new learning materials is a difficult challenge.

Other challenges expressed by the teacher leaders were the concern for time to complete the curriculum and teach more in-depth, when you first have to teach students how to think and problem-solve. Tying critical thinking to practical problem solving and authentic assessment was a natural progression for the teacher leaders. Although, assessing students' accomplishment of critical thinking competencies can be difficult. Thomas (1998b) describes simulation, essay, and interpretive exercises as three ways to assess students' thinking skills. More than one teacher indicated that it was still a "challenge developing scoring guides." Marlowe and Page (1998) caution against being too worried about the assessment itself and focus more on "thinking about assessment as an active demonstration of student understanding and ability to apply this understanding" (p. 62). Gabler and Schroeder (2003a) suggest using a variety of student directed projects that are "driven by challenging, intriguing guiding questions . . . allow for a degree of student choice . . . build on opportunities for students to share what they have learned with classmates . . . (and) feature use of an evaluation instrument that provides students with qualitative feedback on their effort" (p. 418).

Some teacher leaders set specific goals to organize and implement the critical thinking approach more broadly, "create more thematic-based units instead of a few real-life type assignments," and to "[work] on organizing new scenarios." These goals show the teachers' understanding the need for more teaching in-depth and a more holistic approach to incorporating the critical thinking approach. It also illustrates their own growth and development in thinking critically by doing their own problem solving as they implement process skills and model thinking in their teaching.

Keeping their perspective that it is a learning process, valuable for students, and helpful in solving problems and decisions that are applicable to real life situations makes the challenges worthwhile for the teacher leaders. Their concern for the time it takes to first teach students how to think and the patience to keep at it will be well worth it. As one teacher leader wrote, "Thinking is what educated people do. It is fundamental to the education process and not something that people just know how to do." Thompson (2001) a long time FCS teacher reflected on how the new critical thinking perspective impacted her teaching

> I had discovered the power and effectiveness of teaching for critical action. I no longer had to be the 'expert'. The students shared the responsibility for and the rewards of their education. The students were highly motivated and created an experience far more meaningful than any technical or communicative classroom experience devised by the teacher. (p. 6)

Thompson (2001) did caution however, that it is hard work, a process, an effort. One of the changes she made as she incorporated more and more critical thinking approaches into her classes was "I added critical questions to tests and daily work primarily as process questions that had to be answered and given to me as an exit slip before the student left the classroom" (p. 4).

<u>When I think about directly teaching a practical problem-solving unit in my classroom, will I do it differently now? How?</u> An emphasis was put on organizational skills. The teachers' comments illustrated their acknowledgement that getting, and staying organized is key to teaching in a critical thinking, problem-solving classroom. Practical considerations highlighted by the teachers were the importance of organization and relevance of the materials. One teacher set a goal to "ask students what are their major problems with individual or family, then I will

work around these problems so they will see relevance." Another organizational plan described by one teacher is to teach the foundational process skills in FCS (NASAFACS, 1998) which are thinking, communication, leadership, and management. She described it simply as "I plan to begin each semester course with teaching the four process skills and begin to develop each unit as a practical problem."

Focusing on relevance of the scenarios and problems to make learning important to students was mentioned several times, as was the need to add more background information, depth and "meat" to problems, and follow-up assignments. Teachers stressed the importance of more consistent practice and application of critical thinking and problem solving techniques to engage students, keep them familiar with the process, and see the relevance to learning and living in everyday life.

Mailed Questionnaire

Briefly describe how you feel you've met your goals with regards to incorporating these new curricular approaches. Teacher leaders indicated that they met personal and teaching goals, but also insisted that they have not made it all the way. The process was described by more than one teacher as "a work in progress" or admitted they had "improved but it still requires work." Some teachers described specific strategies and goals they have accomplished such as "rewritten some assignments adding new strategies…developed new course based on [the] critical thinking premise" and "I teach the process skills and then implementing critical thinking in the curriculum is easy." These teacher leaders through their experiences in the Institute and the ongoing workshops and interaction with colleagues are becoming transformative learners. Cranton (1994) describes this adult learning as a "means of gaining knowledge and skills, a way to satisfy learner needs, and a process of critical self-reflection that can lead to transformation" (p. 3). Modeling thinking skills, practicing them, and blending them into class activities, assignments, and assessments were all part of the process the teacher leaders went through to incorporate the new curricular approaches.

Recommendations

Change in the way teachers teach requires time, continued commitment, retraining, reflection, and practice. The goal is for the teachers to reach a level of transformative learning which, "leads to some type of fundamental change in the learners' sense of themselves, their worldviews, their understanding of their pasts, and their orientation to the future" (Brooks, 2000, p. 140). There are four critical recommendations as outcomes of this study.

1. Teachers need a solid understanding of the critical thinking, problem-solving approach and the value it has for themselves and their students.
2. Teachers must learn to think critically and model and practice the techniques consistently with students.
3. Teachers who take the time to learn new methods in teaching despite the challenges perceive themselves as successful.
4. Support and continued professional development for current and future teachers in the critical thinking, problem-solving approach is needed.

The change is worth the effort. However, in order for more change to happen and for the approach to be used by more teachers, more training of pre-service and in-service teachers is needed. One teacher leader wrote this comment on the follow-up questionnaire as a suggestion for teacher educators and state staff.

> The Teacher Leader Institute should be continued. Other teachers should be incorporated into the training. The shift of changing teaching [and] learning style takes time and practice. This is not a process with one introduction and workshop/seminar and send you home to try it, maybe, or file it and forget about it. The work from the teacher-leader institute needs to be continued and perhaps with quarterly or at least semester in-service.

Teacher educators are also concerned about placements for student teachers (who have been trained in the new approaches) with cooperating teachers who are also practicing critical thinking strategies and modeling it in their classrooms. A fellow FCS teacher educator at another university in the same state wrote

> I'm finding that it takes a long time for teachers to really interpret and use the problem-solving approach. They say that they are using it, but when you ask them if the students know what problem they are solving, they have never discussed or stated a problem. My student teachers can write great lesson plans showing this approach, but very few of the available cooperating teachers can model the approach for them and the planned lessons in reality begin looking like traditional lessons . . . We really need a large cadre of teachers that are modeling this approach to learning.

The value of using critical thinking skills helps both teachers and students. The resources and classroom environment needed for the approach are available and possible. Teachers are successful with the approach and the benefits seem to outweigh the challenges. As one teacher leader reflected, "Using thinking skills seems to be difficult for students and yet, it is something which they will use daily and is so vital to their success in both [their] personal and professional life."

Teachers need to model critical thinking and practice it, using flexibility in their approach. Students need to use thinking skills in a variety of ways so they can then transfer the learned skill to other situations (Beyer, 1987). Motivating students is an ongoing challenge in the classroom, but the critical thinking approach is more student driven, student friendly, and can make a difference in the lives of students, their families and their communities. It is a step by step process, for teachers and students, creating and practicing more and more classroom lessons, assessments, and experiences in problem-solving approaches, until the process is systemic to the way teachers teach. As one teacher leader wrote, "I have worked to improve my teaching skills and incorporate critical thinking, problem solving and authentic assessment into my classes. I have improved, but it still requires work." Critical thinking and problem solving skills empower students and teachers. It behooves those of us preparing new teachers and providing in-service for practicing teachers to take the responsibility to provide training, resources, and support for teachers and model and practice critical thinking ourselves.

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THE EFFECTS OF GENDER AND GRADE LEVEL ON THE MOTIVATIONAL NEEDS OF FAMILY AND CONSUMER SCIENCES STUDENTS

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The effects of gender and grade level on the motivational needs of students enrolled in family and consumer sciences education (FCSE) programs were determined. Results showed that students enrolled in family and consumer sciences (FCS) classes regardless of gender and grade level had a higher need for achievement than affiliation, but a higher need for affiliation than power. Male students had a higher need for achievement and affiliation than female students, but female students had a higher need for power than male students. Students who were juniors (11th graders) had a higher need for achievement than students in other grades, freshmen (9th graders) had a higher need for affiliation, and seniors (12th graders) had a higher need for power.

Motivation is defined as the process whereby goal-directed activity is instigated and sustained (Pintrich & Schunk, 1996). It causes us to act in a specific way at a particular time (Plotnick, 1993); it is something that moves a person (Kalat, 1993). Motivation could be perceived as one of the most important psychological concepts in education (Vallerand, Blais, Briere & Pelletier, 1992) and substantial research has been conducted on the topic whereby theories have been developed and proposed. According to Pintrich and Schunk (1996), most motivational theories propose a construct such as instinct, drive, habit, needs, or goals that provide the engine to move organisms to act and also the direction in which to act.

In educational research, motivation has centered on goal theories (Ford, 1992; Locke & Latham, 1990). However, goal theories fail to address the issue of what energizes or moves behavior. On the other hand, needs theories are based on the idea that people have different needs and searching to satisfy those needs is what motivates, energizes, or moves behavior. Need provides the force for all behavior including perception, thought, and action (Pintrick & Schunk, 1996). Thought and action are important concepts when working with secondary students as they are an embedded part of motivation.

Although motivation is an important concept in education, educators and students differ on what motivates. Most studies of student motivation have been concerned with factors that educators believe motivated students rather than the motivational needs as perceived by students (Crump, 1995; Dembrowsky, 1990; Horne, 1991). In contrast, Turner and Herren (1997), addressed the motivational needs of students enrolled in secondary agricultural education classes and discovered that students were motivated by the need for achievement. Turner and Herren further determined that students enrolled in secondary agricultural education classes who were members of FFA had a greater need for achievement, affiliation, and power than those students who were not FFA members. Similarly, Rutter, Smith, and Hall (2002) focused on the

motivational needs of students who were enrolled in family and consumer sciences (FCS) classes and concluded that FCS students were motivated by the need for achievement more than the need for affiliation and by the need for affiliation more than the need for power. Additionally, FCS students who were members of Family, Career, and Community Leaders of America (FCCLA) had a higher need for affiliation and power than those who were not members.

A paucity of research exists on motivational needs of students generally and FCS education students specifically. The one study concerning the motivational needs of FCS students (Rutter, Smith & Hall, 2002) theorized that gender and grade level may affect the motivational needs of students enrolled in FCS classes. Therefore, in this study, the researchers have attempted to determine the effect of gender and grade level on motivational needs of secondary FCS students.

Theoretical Framework

Various theories (Alderfer's ERG–existence, relatedness, and growth– theory, 1972; Herzberg's two factor theory, 1971; Maslow's need hierarchy, 1954; McClelland's motivational theory, 1987) have tried to answer the basic question of what causes or stimulates behavior by conceptualizing needs or motives that cause people to behave in a certain way. According to some researchers (Chusmir, 1989; Wong & Csikszentmihalyi, 1991), McClelland's three factors of intrinsic motivation are applicable and relevant when studying human behavior. Therefore, the motivational theory developed by McClelland (1987) was selected for the theoretical foundation of this study.

McClelland's theory described three different types of motivational needs: the need for achievement (nAch), the need for affiliation (nAff), and the need for power (nPower). McClelland's theory is based on the belief that most people have either one or a combination of the three needs which motivate them toward a certain pattern of behavior. Furthermore, his theory suggests intrinsic motivators as critical to meeting the needs of students because they describe a pattern of how a person may behave.

The need for achievement is behavior directed toward competition with a standard of excellence. Characteristics of high achievers are (a) a strong desire to assume personal responsibility for performing a task or finding a solution to the problem, (b) a tendency to set moderately difficult goals and take calculated risks, and (c) a strong desire for performance feedback especially in quantitative form. According to McClelland (1987), this need is shaped rather early in life in part by culture and in part by varying techniques of parenting.

The need for affiliation is a desire to establish and maintain friendly and warm relations with other individuals. Characteristics of individuals with a high need for affiliation are (a) a strong desire for approval and reassurance from others, (b) a tendency to conform to the wishes and norms of others when pressured by people whose friendships they value, and (c) a sincere interest in the feelings of others. Persons with a high need for affiliation are attracted to tasks involving groups (McClelland, 1984). Students with this need would tend to be the peacemakers, the team members, and the social coordinators. These students enjoy the challenge of group work. They want to be accepted by the group, therefore, they tend to listen, compromise, and enable a group to move forward.

The final motive in McClelland's theory is the need for power. This need is explained as the need to control others, to be responsible for them, and to influence their behavior. Characteristics of individuals with a high need for power are (a) a desire to influence and direct somebody else, (b) a desire to exercise control over others, and (c) a concern for maintaining

leader-follower relations. People with a high need for power tend to win arguments, persuade others, and seek power positions. McClelland (1984) suggested that there are two faces of power. The first face has a negative connotation, one that is concerned with having one's way by controlling and dominating others. The other face of power is called social or institutional. Social or institutional power reflects the process of leadership that uses persuasion and inspiration to help people achieve, to be happy, and to learn. This type of person who uses this form of power is one who helps people form and attain goals without dominating them.

Purpose

The purpose of this study was to determine the effect of gender and grade level on the motivational needs of secondary students enrolled in FCS programs. A secondary purpose was to determine if differences exist based on gender and grade level on the motivational needs of students enrolled in FCS programs. Research questions for this study were

1. What motivational needs do students enrolled in secondary FCS programs exhibit in relation to need for achievement, need for power, and need for affiliation when gender and grade level are considered?
2. Do differences occur in relation to need for achievement, need for power, and need for affiliation of students enrolled in family and consumer sciences education (FCSE) classes based on gender and grade level?

Method

Sample

The target population included all students in Georgia, grades 9-12, enrolled in 207 FCSE programs having a nationally affiliated FCCLA chapter which totaled 7,988 students. Cluster sampling was chosen to identify programs for this study. Twelve schools were randomly chosen with two schools selected from each of the six Georgia Department of Education districts to ensure an adequate sample size. Family and consumer sciences education programs with affiliated FCCLA chapters were sorted according to district then selected through a drawing.

Procedure

Phone calls were made to the 12 program instructors selected in the random drawing to describe the study and request their participation. A cover letter requiring the principal's signature, an instruction sheet, and appropriate number of surveys for each class were sent to the school. Instructors received a self-addressed, stamped manila envelope for returning completed surveys. Follow-up phone calls were made to all teachers to thank them for returning the studies or to remind them to return them as soon as possible. All of the teachers from the 12 schools who were invited to participate, administered and returned a total of 1,030 student surveys.

Instrument

The instrument used for measuring motivation was developed by Turner (1996) in a study of Agricultural Education students and FFA members. Turner modified the questions from an instrument used by Chusmir (1989). The questions were developed based on the three qualities of achievement, affiliation, and power identified by McClelland (1987). Five statements focused on need for achievement (nAch), affiliation (nAff), and power (nPower) for a total of 15 statements. An example of need for achievement (nAch) statement is: I try to win as many awards as I can. An example of a need for affiliation (nAff) statement is: I try to work in a group

instead of by myself. An example of a need for power (nPower) statement is: I tend to organize and direct the activities of others. A five-point Likert scale was used (1= strongly agree, 2=agree, 3=undecided, 4=disagree, 5=strongly disagree). Although recent arguments have been established for using Likert type scales without an undecided choice, Chang (1997) states that there seems to be little difference in findings as long as the numerical scale is clearly defined and consistent which is the case in this study.

Based on Litwin (1995) and Nunnaly (1978) estimations, a score of .70 or higher on the Cronbach's alpha suggests good reliability. In Turner's (1996) study, the instrument had an overall Cronbach's alpha of .82. For this study, the overall instrument showed a Cronbach's alpha score of .78, slightly lower than that of Turner's, but well above the .70 recommended.

Data Analysis

Means and standard deviations for each construct were calculated to determine motivational needs for each variable. One-way ANOVAs were completed with the level of significance established at .05. Upon finding significance with the omnibus tests, Tukey HSD was completed to adjust for multiple comparisons of the same data.

Findings

On each scale, the three factors/motivational needs (nAch, nAff, and nPower) were summed to create a composite score for each variable ranging from a low of 5 (strongly disagree) to a high of 25 (strongly agree) where 5.0 to 9.00 was strongly disagree, 9.01 to 13.00 was disagree, 13.01 to 17.00 was undecided, 17.01 to 21.00 was agree, and 21.01 to 25.00 was strongly agree.

For gender, the examination of means showed need for achievement was the highest for both males and females, $M = 19.17$ and $M = 19.07$, respectively. Whereas, need for power was the lowest for both males and females, $M = 16.54$ and $M = 17.00$, respectively. In both cases, the mean score for males was higher than the mean score for females (see Table 1). No statistically significant differences were found based on gender in the need for achievement, need for affiliation, and need for power.

Table 1

Means, Standard Deviations, and Analysis of Variance for Gender of Family and Consumer Sciences Students and the Need for Achievement, Affiliation, and Power

Gender	*N*	*M*	*SD*	*F*	*p*
Achievement					
Male	187	19.17	3.60	0.13	0.7224
Female	837	19.07	3.25		
Affiliation					
Male	187	17.90	3.18	0.32	0.5697
Female	837	17.74	3.45		
Power					
Male	187	16.54	4.06	2.23	0.1355
Female	837	17.00	3.75		

*Range 5 low to 25 high

Regarding grade level, mean scores revealed that students who were in the 11th grade (juniors) received the highest mean rating on achievement (M = 19.40) followed by sophomores and then seniors. On grade level and affiliation, freshmen had the highest mean score (M = 17.93) followed by seniors and then juniors. Grade level and power yielded different results where seniors had the highest mean score (M = 17.19) followed by juniors, sophomores, and finally freshmen. There were no statistically significant differences in the need for achievement, need for affiliation, and need for power based on grade level (see Table 2).

Table 2
Means, Standard Deviations, and Analysis of Variance for Grade Level of Family and Consumer Sciences Students and the Need for Achievement, Affiliation, and Power

Grade Level	*N*	*M*	*SD*	*F*	*p*
Achievement					
Freshman	217	18.73	3.31		
Sophomore	276	19.16	3.28		
Junior	210	19.40	3.27	1.53	0.2051
Senior	321	19.06	3.36		
Affiliation					
Freshman	217	17.93	3.44		
Sophomore	276	17.64	3.43		
Junior	210	17.75	3.31	0.29	0.8321
Senior	321	17.79	3.42		
Power					
Freshman	217	16.64	3.51		
Sophomore	276	16.80	3.98		
Junior	210	16.93	3.73	1.0	0.3919
Senior	321	17.19	3.90		

*Range 5 low to 25 high

Conclusions

Three major findings are reported from this study. First, regardless of gender and grade level, students in this study had a higher need for achievement than affiliation, but a higher need for affiliation than power. Second, males had a higher need for achievement and affiliation than females, but females had a higher need for power than males. Last, students who were juniors (11th graders) had a higher need for achievement, freshmen (9th graders) had a higher need for affiliation, and seniors (12th graders) had a higher need for power.

Discussion

Both males and females, and students in all grade levels, had a higher need for achievement than the other two motivational needs, affiliation and power. Of the three motivational needs, achievement is believed to be the most important as evidenced by McClelland devoting more than four decades of research on this component (Franken, 2002). Many researchers believe that the pleasure of achievement is not in attaining the goal but in developing and exercising skills (Franken, 2002). Given the two aforementioned statements, FCS teachers have a paramount task and professional responsibility in meeting the achievement needs

of FCS students. In order to accomplish the task of meeting the achievement needs of students, FCS teachers should focus on learning experiences that will help develop and use new skills as well as refine previously learned skills. Additionally, FCS teachers should utilize the structured programs of the youth organization, Family, Career, and Community Leaders of America (FCCLA), as they strive to help students meet the need for achievement. FCCLA is an integrated curriculum (Family, Career, & Community Leaders of America, 2000); therefore, it is possible to address the motivational needs of achievement via its activities.

The need to belong and to relate to others has a significant influence on students in the classroom (Raffini, 1996). Recognizing that all students have a need to belong, activities can be planned to meet the need for affiliation. In this study, males had a higher need for affiliation than females. Recent studies (Fox & Van Buren, 1997; Lee, 1998) show that the number of males in FCS is steadily increasing. Consequently, FCS classes with a high population of males should deliberately provide activities that enhance togetherness and group work. McClelland (1987) described affiliation as an activity where a group or team must rely on each other for the outcome. To meet the affiliation need of students, FCS teachers should consider using models of cooperative learning which have been designed for the purpose of group learning. According to Vermette (1998), cooperative learning in its various forms is the most important instructional innovation available to practitioners. FCS teachers are encouraged to utilize cooperative learning models and strategies in their classes.

The need for power was the weakest for students in this study. However, the writers do not want to forgo the opportunity to address the need for power. A need for power can be viewed as a positive trait and will be treated as such in this study. According to McClelland (1984), the positive connotation of power is called social/institutional and is used to help others achieve. FCS teachers are encouraged to channel the energies of students with a need for power in a constructive way. Therefore, careful consideration should be given to grade level of students when roles of leadership are assigned in cooperative group settings as well as other class activities. This is especially true in FCS classes where often students in grades 9-12 are enrolled. In this study, seniors had the highest need for power.

The three motivational needs can work together in a very powerful way. That is, achievement can enhance affiliation and in turn achievement and affiliation can strengthen power. Therefore, the three needs are working together to meet the needs of students.

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ASSESSING CLOTHING CONSTRUCTION SKILLS OF FAMILY AND CONSUMER SCIENCES EDUCATION STUDENT TEACHERS

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This study assessed family and consumer sciences student teachers' clothing construction skills as perceived by cooperating teachers and the student teachers themselves. Skills were assessed using a mailed survey that listed the competencies related to clothing construction developed by the North Carolina Department of Public Instruction for Clothing Design, the state-approved high school clothing class. In general, both former student teachers and cooperating teachers rated student teachers' clothing construction skills as adequate, but noted weaknesses in serger skills and other areas. A recommendation from this study was the addition of an abbreviated clothing construction course that was aligned with the high school curriculum. This course with a laboratory was piloted.

After supervising three family and consumer sciences (FCS) education student teachers from one FCS education university program in North Carolina over a five-year period, a cooperating teacher shared her concern about the students' preparedness to teach clothing construction at the high school level. The cooperating teacher felt the student teachers might be unprepared to effectively teach a high school clothing construction class and facilitate a sewing laboratory. It appeared that students needed additional instruction in the use of sewing machines, sergers, and commercial patterns.

A review of the literature indicated that there is not consensus concerning the value of including clothing construction in either university or high school FCS programs. Often the specific debate concerns the emphasis that should be given to clothing construction skills. Some feel clothing construction should be a primary focus of clothing courses, noting the creative benefits and positive outlets it provides (Loker, 1987). Others also favor emphasis on clothing construction skills, maintaining that the apparel and textile industry represents one of the largest manufacturing employers in the United States with numerous challenging careers which require knowledge of clothing construction (Brandes & Garner, 1997; Dickerson, 1995). Brandes and Garner further note that while expertise in clothing construction may be required for successful employment, many colleges and universities claim there is insufficient time to include a basic clothing construction class in their programs in addition to the advanced technical skills that are required of college graduates.

Others contend that changes in society have altered the role of the traditional sewing component in the study of textiles and apparel, and therefore clothing construction skills are less critical (Murphey & Stewart, 1990; Pauley, 1996; Reynolds & Watson-Maile, 2000). Murphey and Stewart interviewed five Virginia high school FCS teachers regarding their use of sewing as part of their clothing and textiles curriculum. They found that four of the five teachers included some type of sewing project as part of their curriculum, although all had decreased the time they

allotted for sewing instruction, in part because they recognized that most families in today's society purchase rather than construct their clothes. Pauley surveyed middle school students, parents, teachers, professionals, and selected other community representatives to determine what they desired in the local FCS middle school curriculum. Parents, professionals, teachers, and community members ranked sewing instruction the least important among 12 curriculum areas, instead indicating that communication, parenting/family, and consumerism skills were the most important concepts to teach.

The Family and Consumer Sciences Education National Standards include Comprehensive Standard 16.0 for textiles and apparel: "Integrate knowledge, skills, and practices required for careers in textiles and apparel" (National Association of State Administrators of Family and Consumer Sciences, 1998, p. 231). Content standards include the following:

16.1 Analyze career paths within textiles and apparel design industries.
16.2 Evaluate fiber and textiles materials.
16.3 Demonstrate apparel and textiles design skills.
16.4 Demonstrate skills needed to produce, alter, or repair textiles products and apparel.
16.5 Evaluate elements of textiles and apparel merchandising.
16.6 Evaluate the components of customer service.
16.7 Demonstrate general operational procedures required for business profitability and career success.

In their review of Comprehensive Standard 16.0 for textiles and apparel, Reynolds and Watson-Maile (2000) note the various changes in the family, workplace, and apparel industry which have ultimately altered the traditional sewing component of textiles and apparel instruction. They contend that it is still necessary to manage clothing, but that clothing construction skills are less important. Therefore, the National FCS Education standards for textiles and apparel focus on managing family clothing resources and preparing students for careers in the industry. Only one of the seven content standards relates directly to clothing construction, and Reynolds and Watson-Maile say that standard should focus on the manufacturing/industry level rather than home sewing.

As the value of clothing construction education has been questioned, many university programs have reduced or eliminated their clothing construction classes (Brandes & Garner, 1997). Some state that equipment, maintenance, and staffing of such programs are too expensive. Others view clothing construction as a craft class, one that doesn't contribute to the mission of their program. As a result, an increasing number of family and consumer sciences education students do not receive clothing construction education at the university level and enter their student teaching without adequate clothing construction skills.

This might not pose a problem for student teachers in states in which clothing construction is not taught in high school programs. However in North Carolina, Clothing Design, the state-approved high school clothing course, is one of the most frequently offered FCS courses in the state. Since a major part of that course involves clothing construction, it is necessary that FCS education majors in North Carolina possess adequate skills in clothing construction. The purpose of this study was to determine FCS student teachers' clothing construction skills as perceived by cooperating teachers and the student teachers themselves.

Procedures

A survey instrument was developed and mailed to the 15 individuals who had completed their FCS education student teaching during the previous six years through one particular North Carolina university. The survey was also mailed to the student teachers' 15 cooperating teachers. The survey listed the competencies related to clothing construction developed by the North Carolina Department of Public Instruction for Clothing Design, the state-approved high school clothing class. Former student teachers and their cooperating teachers were asked to independently rate the student teachers' levels of competence during student teaching for each clothing construction skill from 1 (lowest skill level) to 4 (highest skill level). Student teachers and cooperating teachers were also invited to include any additional comments they wished to make. Surveys were completed and returned by 8 of the 15 cooperating teachers (53%) and 10 of the 15 student teachers (67%). All 10 of the former student teachers were female and presently teaching family and consumer sciences at the high school level.

Findings

In general, the former student teachers rated as adequate their sewing machine operations skills and their construction skills; however, they rated their serger operation skills as marginal. Student teachers rated themselves highest for the following competencies: connecting the power source to the sewing machine (4); connecting the foot pedal to the machine (4); changing a needle (4); threading the machine (3.9); and backstitching (3.9). They perceived themselves as weakest in the following competencies: adjusting serger for rolled hemming (1); troubleshooting and repairing serger (1.5); threading serger (2); adjusting serger tension (2); and cleaning, lubricating, and storing sewing machine (2.2).

Like the student teachers, cooperating teachers rated student teachers as adequately prepared in their sewing machine operation and construction skills; however, they, too, noted that students' serger skills were marginal. Cooperating teachers rated students most highly for: connecting the power source to the machine (3.9); connecting the foot pedal to the machine (3.6); threading the machine (3.6); and finishing a seam with the serger (3.6). Cooperating teachers rated student teachers lowest in: adjusting serger for rolled hemming (2.3) and troubleshooting and repairing the sewing machine (2.3).

Summary and Implications

In this study, both former student teachers and cooperating teachers recognized weaknesses in the student teachers' clothing construction skills at the time of student teaching. In general, student teachers rated their clothing construction skills as slightly more developed than their cooperating teachers rated them. However, students were quick to note their lack of competence in working with sergers. One former student teacher commented, "We need to learn serger skills better," while another said, "The clothing construction class [at my university] was good, but there is only so much that can be covered in one semester." Another former student teacher recalled her first year of teaching FCS: "When I started teaching, I knew basically nothing about sewing. I had to ask co-workers how to do these things." Another remarked, "The reason I do not teach Clothing Design [today] is that I still feel very intimidated by my lack of skills."

Cooperating teachers' comments were also insightful. One cooperating teacher described her former student teacher as very competent in clothing construction: "I had a student teacher

that had taken Clothing Design in high school and sewed on her own, but she was an exception." However, most cooperating teachers' comments were similar to those of their former student teachers: "My student teacher had a real lack of skills for teaching clothing construction," and "My student teacher did not know very much at all when it came to sewing."

Considering the results of this study, it was recommended that FCS education majors from the North Carolina university program in this study complete additional class work in the area of clothing construction to assure that they were effectively prepared to teach high school clothing classes. One suggested strategy was to offer students an abbreviated clothing construction course taught by a secondary FCS teacher in a high school FCS clothing lab. Such a class would include clothing construction coursework that was aligned with the competencies in the Clothing Design course of study, along with learning experiences which would enable students to simulate the role of the clothing instructor.

Collaboration among the university FCS teacher educator, department chair, cooperating teachers, and student teachers occurred. As a result, a six-week clothing construction laboratory which simulated the state-approved high school clothing course was developed and taught by the local high school clothing teacher as part of her graduate work. The laboratory was piloted within the university FCS curriculum course which is taken by senior FCS education majors the semester before they complete their student teaching experience.

The learning objectives addressed in the laboratory were based upon the competencies taught in the North Carolina State Department of Public Instruction high school Clothing Design class. Objectives of the laboratory related to the following topics: commercial patterns; small sewing equipment; sewing machine parts, functions, and troubleshooting; serger parts, functions, and troubleshooting; use and care of sewing machine and serger; purchase of fabrics and notions; basic construction techniques; and management of a sewing lab. Students attended a weekly two-hour lab for six weeks in which they completed three sewing projects and presented to the class one demonstration of a clothing construction technique. They completed pre- and post-surveys concerning their perceptions of their clothing construction skills. The surveys listed the competencies related to clothing construction in the North Carolina state-approved Clothing Design course (and in this laboratory). In both the pre- and post-tests, students were asked to rate their level of competence for each clothing construction skill from 1 (lowest skill level) to 4 (highest skill level). Overall, student' perceptions of their clothing construction skills increased from the pre-test to the post-test.

It was concluded that the clothing laboratory was beneficial in helping students improve their clothing construction skills and should be included in their university program of study. However, the logistics of implementing the lab experience have not been finalized at this point.

Findings from this study and the resulting laboratory experience indicate that further research in this area could prove beneficial. The survey instrument might be developed further and validated for use with a broader state or regional sample. In addition, other states might be surveyed to determine their inclusion of clothing construction in their undergraduate teacher education programs and the benefits they perceive.

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BOOK REVIEW

Review by Debbie Johnson

Schor, J. (2004). *Born to Buy: The Commercialized Child and the New Consumer Culture*. New York: Scribner. 275 pages. ISBN 0-684-87055-X. $25.00 (hard cover)

Juliet Schor, is a professor of sociology at Boston College. Schor is the author of *The Overworked American* and *The Overspent American*. She is an economist by training and is recognized as an expert on consumerism, economics and family studies. The research for *Born to Buy* began in 2001 when she participated in the Visiting Professor Exchange program run by the Advertising Education Foundation. While participating in this program she was able to visit a number of advertising agencies and conduct informational interviews with professionals in the field.

In *Born to Buy*, Schor examines how children are being marketed to, how marketing to children has changed over time, and the effect of marketing on children. In addition to her investigation of marketing practices, she conducted a survey of 300 fifth- and sixth-grade children to measure children's level of involvement in consumer culture.

Schor's book contains ten chapters. Chapters 1 through 5 take a look at the history of our consumer society, the content of commercial messages, and how advertising infiltrates everyday life including schools. The United States is identified as the most consumer-oriented society in the world, with advertising found in most every social institution and public space. Schor proposes that the companies that make, market and advertise consumer products have now set their sights on children with children responding by "becoming the household member with the most passionate consumer desires, and are the most closely tethered to products, brands, and the latest trends" (p. 11).

In Chapter 6, *Dissecting the Child Consumer*, Schor takes a look at how children are used to gather data which is in turn used to make advertising and marketing decisions. Children are viewed as the "expert", and are involved in all marketing stages, from product design to final ad copy. Children are studied in their home to determine how they interact with products and how products are used. Focus groups are set up to study children's reactions to products. Children are even used to host parties at which they introduce their friends to new products.

Chapter 7 focuses on habit formation and the role advertising plays in the formation of habits of children. Food advertising and its impact on children is discussed at great length, with an emphasis on fast food/healthy food. How parents shop and the impact of the children's food requests are also studied. With today's obesity and health concerns coupled with the fact that eating habits learned in childhood tend to continue as they mature, the topic of food advertisement is highly relevant. The impact of tobacco, alcohol and drug marketing is also questioned. Schor cites a 1998 survey (page 133) in which children six to seventeen identified a beer commercial as their favorite commercial. Schor also looks at how companies pay fees to have their brand names inserted in television programs and movies.

The Survey on Children, Media and the Consumer Culture is discussed in Chapter 8. The 157 question survey was administered to 300 children between the ages of ten and thirteen, in and around Boston, Massachusetts. The results of the survey are discussed thoroughly in this chapter. Schor concludes that "American children are deeply enmeshed in the culture of getting and spending and they are getting more so. The more they buy into the commercial and materialist messages, the worse they feel about themselves, the more depressed they are, and the more they are beset by anxiety, headaches, stomachaches and boredom" (p. 173)

In chapter 10 Schor offers suggestions on ways we can decommercialize childhood, including: becoming involved in enacting legislation which would more highly regulate advertising and the media; becoming aware of the types of advertising taking place in schools; and becoming more aware of commercialization in the home and offering alternatives when needed.

Evaluation

Juliet Schor's *Born to Buy* is a thought-provoking book. The reader is led through a wealth of citations from previous research in the field. Schor adds to this research her personal observations from interviewing professionals in the field of advertising and the surveying middle school students. She also included information from her perspective as a mother of two young children.

Family and Consumer Sciences professionals will find this book to be very informative and useful. *Born to Buy* is enjoyable to read. The reader is provided background information on the very complex subject of the commercialization of children. Someone with no knowledge of this subject can follow the format of the book and the statistical study that is described in the book.

Overall, *Born to Buy* is a very good book. One comes away with the feeling of needing to be aware of the many avenues that are being used to market products to children and the need to become involved in helping to safe guard our children.

About the Author

Debbie Johnson is an associate professor at Southeastern Louisiana University. Debbie received her Doctorate from Louisiana State University in Vocational Education and her Masters from LSU in Vocational Home Economics Education. Debbie has 12 years of experience at the secondary level.