

## **Determining Globalization Competencies for Pre-Service Family and Consumer Sciences Teachers**

**Sally Arnett-Hartwick  
Illinois State University**

*The purpose of this study was to determine what pre-service family and consumer sciences (FCS) teachers need in order to be a globally-competent teacher at the secondary level. A modified Delphi method was used with a panel of 27 FCS teacher educators from various U.S. institutions. Consensus from three rounds of response statement data using an online collection tool was that FCS pre-service teachers need 20 competencies to be globally competent. Acceptable competency items to leverage standards to transform instruction into FCS teacher education programs were established in the findings.*

Globalization has redefined how individuals, families, and communities live and work in today's society (Rojweski, 2002). Examples of globalization are found in social media use, clientele cultural interaction, online shopping, mobile banking, the expansion of technology devices, mass importing of goods, and workplace assignments. Globalization calls for improved congruence among universities, societal needs, and employers' requirements. In its response to globalization, the education sector must strengthen articulation among educators and curriculum to prepare a globally-competent workforce and a world-class citizenship.

Multiple factors are pushing the need to globalize education. These factors include the current economic status, the need for students to be multilingual, the potential to interact with a diverse population, and the growing requirement for 21st-century skills, including a sharp focus on technology (Kassabian, 2011). Globalization from an educational perspective is defined as an academic institution's ability to extend and expand a student's awareness and provide them with the skills necessary to become critical thinkers, international citizens, as well as learn about the diversity of other cultures (Suarez-Orozco, 2007).

Little research on globalization exists as it pertains to school curricula and practices (Kassabian, 2011) yet there have been significant events that have led to the importance of including globalization within the overall school curricula. America's schools first came under scrutiny with the launch of Sputnik in 1957 which resulted in improving student performance in math and science. Then, in 1983, the National Commission on Excellence in Education released *A Nation at Risk*, a report which concluded public schools were failing to provide students with the skills necessary to be successful in a global society, thus falling behind their competitive counterparts (Harris & Herrinton, 2006). As a result of the documented academic underachievement by schools, teacher education and standards had to be reformed.

Nearly two decades later, another educational reform mandate was enacted, known as the *No Child Left Behind Act of 2001* (NCLB). NCLB was in response to the need to unequivocally improve student academic achievement for all (Gandara & Hopkins, 2008). The Act required mandated assessments, teachers to be "highly qualified," and accountability measures tied to funding. However, Kymes (2004) suggested the intent of NCLB was closely linked to a desire to produce an adequate workforce of skilled laborers.

Following NCLB, the Trends in Mathematical and Science Study (TIMSS) report in 2007 indicated that 4th and 8th-grade students in China, Japan, and Russian Federation were outperforming U.S. students in science and math thus driving the international competitiveness.

Congress recently passed the *Every Student Succeeds Act* (ESSA) reauthorizing the *Elementary and Secondary Education Act*, the primary source of federal aid for K-12 education in the United States. The ESSA has a hefty focus on careers thus implicating career and technical education (CTE). Specifically, provisions of the ESSA included career counseling, adding CTE as a core subject (of which FCS is part of CTE), and providing professional development for CTE teachers.

Each legislative act discussed above provided a response to the perceived failure of the educational system to produce an adequate base of adults prepared for work and life beyond high school. Thus, a “flattened” world with global connections raises questions regarding the competency of teachers to prepare students for the ever-changing and expansive demands associated with globalization.

### **Globalizing Education in Family and Consumer Sciences**

The Longfellow Foundation defined a globally competent student in 2008 as one who (a) has knowledge of, and curiosity about the world’s history, geography, cultures, economic systems and current international issues; (b) possesses language and cross-cultural skills to communicate effectively with people from other countries; (c) understands multiple perspectives; and (d) is committed to ethical citizenship. While not every student attends post-secondary education, global expectations are not limited to college graduates (Conner & Roberts, 2013). Thus, secondary school teachers need to be considered globally competent to educate the maximum number of students regardless if college bound or immediate workforce entry after graduation.

Originally founded to teach housewifery and domestic skills as a science, family and consumer sciences (FCS) education has evolved into problem-solving and critical thinking of perennial problems related to adulthood, the family, and work environment. Globalization has impacted every subject matter of FCS from textiles to child development to consumer education. For example, the transition of blending a multicultural family together from a marriage; working as a human service agent on an international adoption case; or knowing the international policy on textile importation. As a result, FCS teachers need to be cognizant of the global approaches integrated into the individual content as it relates to advancing the FCS curriculum. Therefore, to educate students to adapt and function in a global society further strengthens the need to ensure the FCS teacher is globally competent.

While there are no exact studies that have researched overall globalization competencies required for FCS teachers, research has been conducted on individualized components of globalization among secondary FCS teachers. Recognizing that FCS teachers are interacting more frequently with students from cultural backgrounds different from their own, Rehm and Allison (2006) studied cultural diversity perceptions among FCS teachers to make recommendations for FCS teacher education programs. The qualitative findings produced several recommendations for teacher educators to help better prepare FCS teachers to work with culturally diverse students. Rehm and Allison (2006) suggest that teachers: (a) learn to ‘think critically’ how their actions, behaviors, and communications affect culturally diverse students; (b) increase technical knowledge (learn about appropriate behaviors, dress, religion, values to specific cultures); (c) receive training in specific instructional techniques (learning styles, cooperative learning, multiple deliveries); (d) have direct exposure to different cultures; (e) learn methods for English Speakers of Other Languages (ESOL); and (f) participate in coursework in cultural aspects of individuals and family life.

Forrest and Alexander (2004) also addressed implications for FCS teacher education programs given the changes in student demographics. These researchers suggested FCS teacher

education programs should include: (a) observations and experiences in diverse classroom settings, (b) specific work opportunities to learn about differing cultures, (c) a requirement that students become bilingual, (d) teaching students how to communicate with students and parents with limited English proficiency, and (e) a review of curriculum and make changes to incorporate culturally-relevant materials and instructional aids.

Two studies focused on the ways technology in secondary FCS classrooms. Jenkins, Mimbs, and Kitchel (2009) and Redman and Kotrlík (2009) described the need to integrate technology in FCS classrooms to “technologically prepare students for the future.” These researchers noted that technology can be used to enhance instruction content, stimulate student interest, and foster critical thinking skills.

### **Globalization in Teacher Education**

Although most universities in the U.S. are making some efforts to globalize their programs, it is evident that the same work has not been widely undertaken in teacher education (Zeichner, 2010). In fact, Colleges of Education are still often among the least globalized units on U.S. campuses; therefore, it is not surprising that most teachers begin their career with little more than surface knowledge of the world (Longview Foundation, 2008; Schneider, 2003). Thus, changes in society and accountability measures have prompted the examination of programs and practices of globalization in teacher education and furthermore in the area of FCS teacher education.

Conrad, Manise, Singmaster, and Watkins (2016) defined global competence as the capacity and disposition to understand and act on issues of global significance. In other words, teaching for global competence supports the suggested 21st-century skills (e.g., critical thinking, reasoning, communicate effectively, and problem solving) but in a global context. For example, the analysis of other perspectives in how cultural interactions influence situations, events, issues or phenomena.

Merryfield (2000) indicated that teacher educators are not successfully preparing future teachers to engage a global perspective. For high schools to produce globally competent graduates, the teachers and the curricula must encourage and promote the importance of globalization. Obviously, if teachers are not globally competent, it is unlikely they will prepare their students to be globally competent. In fact, Billings (2006) advocated one of the most effective resources for bringing globalization alive with students is through the personal and professional experiences of the classroom teacher. Moreover, Ambe (2006) suggested that it is the responsibility of teacher educators to promote an environment that encourages multi-cultural appreciation within their programs.

### **Conceptual Framework**

A result of concentrated initiatives in higher education to promote globalization among its students and curriculum has programs considering what should be the outcome of such actions, such as in FCS teacher education. Specifically, thinking backward, what does a globally competent FCS teacher possess? Globalization has different implications and interpretations among teacher education leaders. The need to build a consensus on what constitute acceptable competency items from those invested in FCS teacher education is an initial step to guide globalization practices within among FCS teacher education programs.

As the 21st century approached, FCS professionals were aware of the trends reshaping the U.S. society. As a result, of such changes (e.g., globalization, development of digital communication, changes in the pattern of work, and an increase in ethnic diversity) acknowledgment of FCS programs content and practices were not being reflective of the people

it was serving. Therefore, a national taskforce was commissioned to develop the FCS Body of Knowledge (BoK). A body of knowledge is the collective knowledge of a particular profession at a given time that distinguishes it from another profession (Nickols, Ralston, Anderson, Browne, Schroeder, Thomas, & Wild, 2009).

The final product, FCS BoK framework, set parameters for professional focus and practice represented by integrative threads cutting across the threads of the specializations. This intellectual foundation is a conceptual, ever-changing model reflective of societal changes (Nickols & Anderson, 2001). In their concluding remarks, BoK authors called for a continual redefinition and refinement of the meanings and the related concepts included in the BoK. In response to Baugher, Anderson, Green, Shane, Jolly, and Miles' (2000) suggestion that the FCS BoK be used to frame future research in efforts to help the profession progress, the FCS BoK served as the conceptual framework for this study.

Given FCS education touches all areas of the BoK, FCS teachers need a broader perspective of the world and their encounters. Global perspectives were identified as a cross-cutting thread by the originators of the BoK. This particular thread encompasses technology, critical thinking, communication skills, diversity, and professionalism.

Globalization is not a silo concept. It can and has been infused in every way people work, live, and are educated in all aspects of life's interactions. Such interactions are often bound to the context in which they are found and are not transferable. For example, nutrition programs for food insecurity in third world countries do not transfer to other contexts; nor do Hispanic mothers and father's leadership roles and views of education and work in the U.S. transfer well outside this country. Dramatic changes in societal and workforce demographics, significant challenges to language differences, cultural beliefs, and changing work attitudes have a direct bearing on how FCS education is delivered in public schools (Poirer, Faria, Hernandez & Madia, 2005).

Identifying descriptors can provide a sense of common meaning to globalization used in the framework for FCS teacher education. Most notably, teachers are at the forefront of bringing global awareness and perspectives into the classroom. However, Merryfield (2000) indicated that teacher education programs are not successfully preparing future teachers to engage a global perspective. The FCS BoK provides a schema for establishing critical issues, such as global competency, and allowing for a solution (Poirer, et al., 2005). Thus, the examination of what does a pre-service teacher need to be considered globally competent is of merit. This research can assist those in the field to have a foundation to enhance program efforts to achieve globalization competencies among its pre-service teachers entering the profession.

## **Methodology**

### **Objectives**

The purpose of this study was to determine what pre-service FCS teachers need in order to be globally competent at the secondary level. Specifically, the objective of the study was to identify global competencies which pre-service FCS teachers should possess before entering the teaching profession.

### **Research Method**

A Modified Delphi method was used to answer the research objective. Developed by Dalkey and Helmer (1963), the Delphi technique is an accepted method for consensus building by using a series of questionnaires delivered using multiple iterations to collect data from a panel of selected subjects.

### **Subjects**

In the selection of subjects to participate in a Delphi study, Oh (1974) noted individuals are considered eligible if they have somewhat related backgrounds and experiences concerning the target issue and are capable of contributing helpful inputs. The subject criterion for this study was the individual must be currently working as a university FCS teacher educator. FCS teacher educators are responsible for preparing FCS teacher candidates in the curriculum, pedagogy, and professionalism.

The panel of subjects was formed by using the ZeeMap for FCS Teacher Education Programs website that identified FCS teacher educators and their contact information. A total of 117 subjects were identified for the first round of the Delphi.

### **Data Collection and Analysis**

Data was collected using an online survey tool called Qualtrics. Various researchers of the modified Delphi method noted three rounds are often sufficient to obtain the needed information and reach a consensus (Custer, Scarcella, & Stewart, 1999; Ludwig, 1997). Notifications for each of the three rounds were sent to the panelists using an email with a link to the questionnaire. Dillman, Smyth, and Christian's (2009) procedures were used to increase the response rate.

Round one consisted of one open-ended question, "What competencies would a FCS teacher need to possess to be a globally competent teacher at the secondary level?" The responses collected were analyzed and categorized using a constant-comparative method. Response statements with similar meanings were collapsed to one response statement. Of the 117 subjects identified, seven contacts were no longer accessible. Twenty-eight (26%) subjects responded and identified 22 competencies. The 28 subjects made up the panel for round two. Delbecq, Van de Ven, and Gustafson (1975) and Ludwig (1997) documented that the majority of Delphi studies have used between 10 to 20 subjects and that would suffice to build a consensus. Round two asked the panel to indicate their level of agreement using a five-point Likert scale (Strongly Agree, Agree, Neither Agree/Disagree, Disagree, Strongly Disagree) with each statement item that was collected from round one. Twenty-seven (96.9%) of the 28 subjects responded to the questionnaire. The responses collected were analyzed by descriptive statistics which is the principal statistically analysis used in Delphi studies (Hasson, Keeney, & McKenna, 2000). It was determined a priori that competencies with at least two-thirds of the panelists choosing Strongly Agree or Agree would move on to round three. The panel members agreed on 20 competencies which made up the questionnaire for the third and final round of data collection.

For round three, the panelists were asked to indicate whether they agreed or disagreed with each competency-statement item. Delphi literature suggests that a priori of 80% or higher among subjects can determine consensus (Green, 1982). Those response statements which reached the benchmark would be retained as a global competency that pre-service FCS teachers should obtain before entering the teaching profession. Twenty-seven (96.9%) subjects responded to the round three.

### **Findings**

A panel of 28 FCS teacher educators across the United States participated in this modified Delphi study designed to determine what competencies a FCS teacher needs to be globally competent at the secondary level. Round one was designed to build a list of competencies by asking the panelists to respond to one open-ended question. The question was, what competencies does a FCS pre-service teacher need to be globally competent at the secondary level? The panelists proposed 22 competencies. The identified competencies are presented in Table 1.

In round two, the panelists were asked to identify their level of agreement for each competency item identified from round one of this study. Panelists rated each item using a Likert-type scale consisting of Strongly Agree, Agree, Neither Agree/Disagree, Disagree, Strongly Disagree. *A priori* with at least two thirds (>66.6%) of the panelists selecting Strongly Agree or Agree would move on to round three. Based on the results, two competencies *understand different religions and political and economic systems* and *basic knowledge of at least one foreign language* were dropped after round two because less than two-thirds of the panelists strongly agreed and/or agreed with the two competencies. Thus, 20 competencies made up round three. Round two results are presented in Table 1.

In the third and final round, the panelists were asked to agree or disagree with each competency item. A minimum of 80% was the benchmark for each item to be retained. The panelists came to consensus on all 20 competency items. Complete results for competencies are presented in Table 2.

### **Discussion**

The purpose of this study was to determine what pre-service FCS need to be a globally competent teacher at the secondary level. The panelists of FCS teacher educators came to a consensus that pre-service FCS teachers need 20 competencies to be considered a globally competent teacher.

The majority of competencies identified by the FCS teacher educator panelists were broad competencies which can be applied to any teacher education program. Interestingly, the top six competencies recognized fit into this category. These competencies included: *respect student differences; understand cultural differences; promote integrative, open-mindedness, and critical thinking skills; appreciation for diversity; active lifelong learners; and awareness of global issues and trends*. In reality, the competencies mentioned above are or should be staple expectations of any teacher preparation program. Moreover, these findings support the global competence definition by Conrad, Manise, Singmaster, and Watkins (2016) by adding a global context to the 21st-century skills set. Additionally, these findings provide the necessary

Table 1

Descriptive Statistics of Competencies by Delphi Round 1 and 2

Competencies Identified in Round 1 (n=28)		Round 2 (n=27) Agree/ Strongly Agree %
1.	Understand cultural differences	100.00
2.	Promote integrative, open-mindedness, and critical thinking skills	96.00
3.	Awareness of global issues and trends	96.00
4.	Active life-long learner	96.00
5.	Demonstration of transferable workplace skills such as collaboration, literacy, time management	96.00
6.	Develop a sense of empathy	96.00
7.	Ability to integrate global and cultural concepts within all family and consumer sciences content areas	92.00
8.	Understand global family issues	92.00
9.	Respect of student differences (ethnicity, gender, religion, learning styles)	88.00
10.	Ability to apply appropriate instructional methods	88.00
11.	Appreciation for diversity	88.00
12.	Knowledge and skillful use of technology	88.00
13.	Selection and development of curriculum that fosters diversity	88.00
14.	Knowledge of global family cultures, traditions, characteristics, and functions	84.00
15.	Basic knowledge of geography	80.00
16.	Cross-cultural communication skills	76.00
17.	Knowledge of cultural foods	76.00
18.	Interpret current research regarding cultural issues affecting individuals and families.	72.00
19.	Recognize the role of language in the classroom	72.00
20.	Develop social action skills	72.00
21.	Understand different religions and political and economic systems	60.00
22.	Basic knowledge of at least one foreign language	24.00

evidence to continue and ensure inclusion of such competencies in all teacher education programs.

Five of the 20 competencies identified could be categorized as competencies related to FCS curricular concepts: *knowledge of global family cultures, traditions, characteristics, and functions; knowledge of cultural foods; understanding of global family issues; interpreting current research regarding cultural issues affecting individuals and families; and ability to integrate global and cultural concepts within all family and consumer sciences content areas.*

Table 2

Descriptive Statistics of Competencies by Delphi Round 3 (n=27)

	Competencies	Agree %
1.	Respect of student differences (ethnicity, gender, religion, learning styles)	100.00
2.	Understand cultural differences	100.00
3.	Promote integrative, open-mindedness, and critical thinking skills	100.00
4.	Appreciation for diversity	96.30
5.	Active life-long learner	96.30
6.	Awareness of global issues and trends	96.30
7.	Knowledge of global family cultures, traditions, characteristics, and functions	92.59
8.	Knowledge of cultural foods	92.59
9.	Ability to integrate global and cultural concepts within all family and consumer sciences content areas	92.59
10.	Develop social action skills	92.59
11.	Demonstration of transferable workplace skills such as collaboration, literacy, time management	92.59
12.	Develop a sense of empathy	92.31
13.	Recognize the role of language in the classroom	88.89
14.	Basic knowledge of geography	88.89
15.	Ability to apply appropriate instructional methods	88.89
16.	Understand global family issues	88.89
17.	Selection and development of curriculum that fosters diversity	88.89
18.	Knowledge and skillful use of technology	88.89
19.	Interpret current research regarding cultural issues affecting individuals and families.	85.19
20.	Cross-cultural communication skills	85.19

Having the knowledge, understanding, and thus, the ability to integrate FCS global and cultural concepts, can better position FCS teachers to be encompassing of the students they serve. These findings define globalization competencies in a FCS context, which is a first for the FCS teacher education discipline.

So what does this mean for FCS teacher education programs? First, the panelists must have been thinking holistically about what it means to be a globally competent teacher as the majority of competencies identified were general statement items such as *respect for student differences*, *understand cultural differences*, and *appreciate for diversity*. Globalization is not an isolated topic, but an integration of curriculum and pedagogy. Many of the competencies identified support the 21st century skills set such as *critical thinking*, *cross-cultural communication skills*, and *demonstration of transferable work skills (e.g., collaboration, literacy, and time management)*.

Secondly, from the findings it appears a better knowledge base of students is needed by pre-service teachers. For example, competencies identified such as *understand and respect student differences (ethnicity, gender, religion, learning styles)*, *understand cultural differences*,



*recognize the role of language in the classroom, and cross-cultural communication skills* could support a class termed “characteristics of students,” or at least, devote an extensive amount of time to the topic. Recognizing pre-service students already participate in observations, perhaps more poignant assignments related to the learning of students and their school and home environments, such as interviewing a family of another culture or attending outside of school-related activities involving diverse students could better fill the knowledge gap.

While no exact studies have researched globalization competencies specifically for FCS teacher education, it is difficult to state the findings from this study as consistent or inconsistent with previous research. However, research on individual characteristics of globalization has been conducted with secondary FCS teachers that are relatable to the findings of this study.

Several of the general competencies identified in this study support the findings of Rehm and Allison (2006) and Forrest and Alexander (2004). Both sets of researchers studied the cultural classroom of secondary FCS teachers to provide recommendations for FCS teacher education programs. The overlapping competencies included: *promote critical thinking, understand and respect student differences; ability to apply appropriate instructional methods; selection and development of curriculum that fosters diversity; and recognize the role of language*. In the previous studies, the researcher explicitly emphasized English Limited Language by differentiated instruction, become bilingual, and learn skills to talk with parents to better the communication lines; with this study only the verbiage to “recognize” the role of language was used.

*Knowledge and skillful use of technology* was identified as a globalization teacher competency among the panelist in this study, which is consistent with Jenkins, Mimbs, and Kitchel (2009) and Redmann and Kotrlik’s (2009) findings that FCS teachers need to use and become computer literate. Specifically, the researchers described the need to integrate instructional technology in FCS classrooms to “technologically prepare students for the future.” Furthermore, these researchers emphasized technology can help provide a variety of learning opportunities which help students better understand FCS concepts being taught by enhancing students interest and better able to meet the learning needs of all students. Also, technology inclusion has helped move the classroom from a teacher-centered environment to a more student-centered one; fostering critical thinking skills which were identified as a globalization competency in this study.

Panelists in this research agreed on similar characteristics by the Longview Foundation’s (2008) definition of a globally competent student; these included an *understanding of cultural differences, have an awareness of global issues, basic knowledge of geography, cross-cultural communication skills, and development of social action skills*. Given that FCS teacher education lacks a definition, the profession can adopt the above definition and expand on it by including the following FCS-related competencies identified in this study: *knowledge of global family cultures, traditions, characteristics, and functions; knowledge of cultural foods; understanding of global family issues; and interpreting current research regarding cultural issues affecting individuals and families*.

This study was framed using the FCS Body of Knowledge (BoK). The interrelatedness of concepts outlined within the BoK mirrors that of globalization. Globalization can be infused in all areas of FCS. The FCS curriculum encompasses family, finances, workplace development, relationships, food, human development, and textiles in which each area has no boundaries in a flat world. In fact, the *ability to integrate global and cultural concepts within all FCS content area* was identified as a global competency in this study. This finding confirms the integrative nature of the discipline in a global context.

The FCS BoK list global perspectives as a cross-cutting thread. This particular thread includes namely technology, critical thinking, communication skills, diversity, and professionalism all of which were identified in this study as needed global competencies. While the FCS BoK is an evolving piece, the authors encouraged the concepts to be refined with intentions of rounding out the framework. The globalization perspectives now have a sense of common meaning as a direct result of these study findings for the FCS teacher education discipline.

This study took globalization as an explicit concept to implicit by building a consensus of competencies. As indicated by Ambre (2006), it is the responsibility of teacher educators to promote an environment which encourages multi-cultural appreciation within their programs. FCS teacher educators can use the globalization competencies reported by the FCS teacher educator panel involved in this study as a guide for curricular changes and application practices within their programs.

### **Conclusion**

Despite efforts among universities to integrate globalization into its programs, there are seldom discussions about what it means to be a globally-competent student in teacher education. Such discussions are even more marginal in FCS teacher education. Results of this study provide empirical data for identifying what a FCS teacher needs to know and be able to do to be globally competent. These findings add to the FCS context gap in knowledge and literature base as well as establish a foundation for FCS teacher education programs to ensure they are producing teachers ready for the 21st-century classroom.

This research prompts areas of need for future research. As a direct outcome of this study, an operational definition of globalization relating to FCS teacher education needs to be developed. The identification of experiences needed by teacher candidates to support the identified globalization competencies should be studied. Also, investigation of the current status of what is currently being done in FCS teacher education programs to prepare their FCS teachers as competency in globalization. Finally, perceptions of globalization among FCS teacher educators needs to be researched to discover self-reflection regarding globalization.

### **References**

- Ambe, E. (2006). Fostering a multi-cultural appreciation in pre-service teachers through multi-cultural curricular transformation. *Teaching and Teacher Education*, 22, 690-6999. doi: 10.1016/j.tate.2006.03.005
- Baughner, S., Anderson, C., Green, K., Shane, J., Jolly, L., & Miles, J. (2000). Body of knowledge of family and consumer sciences. *Journal of Family and Consumer Sciences*, 94(2), 9-10.
- Billings, G. (2006). From the achievement gap to the education debt: Understanding achievement in U.S. schools. *Educational Researcher*, 35(7), 3-12. doi: 10.3102/0013189X035007003
- Conner, N., & Roberts, T. G., (2013). Competencies and experiences needed by pre-service agricultural educators to teach globalized curricula: A modified Delphi study. *Journal of Agricultural Education*, 54(1), 8-17. doi: 10.5032/jae.2013.01008
- Conrad, M., Manise, J., Singmaster, H., & Watkins, L. (2016, February). Beyond standards: Making local-global connections within the common core. *Techniques*, 91(2), 52-55.

- Custer, R. L., Scarcella, J. A., & Stewart, B. R. (1999). The modified Delphi technique: A rotational modification. *Journal of Vocational and Technical Education*, 15(2), 1-10.
- Dalkey, N. C., & Helmer, O. (1963). An experimental application of the Delphi method to the use of experts. *Management Science*, 9(3), 458-467.
- Delbecq, A. L., Van de Ven, A. H., & Gustafson, D. H. (1975). *Group techniques for program planning*. Glenview, IL: Scott, Foresman, and Co.
- Dillman, D. A., Smyth, J., & Christian, L. (2009). *Internet, mail, and mixed-mode surveys: The tailored design method*. (3<sup>rd</sup> ed.). HoBoKen, NJ: Wiley.
- Gandara, P., & Hopkins, M., (2008). Benchmarking improvements for students of color and English learners. *Conditions of Education in California*. PACE. 5-13.
- Green, P. J. (1982, March). *The content of a college-level outdoor leadership course*. Paper presented at the Conference of the Northwest District Association for the American Alliance for Health, Physical Education, Recreation, and Dance, Spokane, WA.
- Forrest, M., & Alexander, K. (2004). The influence of population demographics: What does it mean for teachers and teacher education? *Journal of Family and Consumer Sciences Education*, 22(2), 67-73.
- Harris, D., & Herrinton, C. (2006). Accountability, standards, and the growing achievement gap: Lessons from the past half-century. *American Journal of Education*, 112(2), 209.
- Hasson, F., Keeney, S., & McKenna, H. (2000). Research guidelines for the Delphi survey technique. *Journal of Advanced Nursing*, 32(4), 1008-1015.
- Jenkins, D., Mimbs, C.A., & Kitchel, T. (2008). Computer literacy, access, and use of technology in the Family and Consumer Sciences classroom. *Journal of Family and Consumer Sciences Education*, 27(1), 1-13. Retrieved from <http://www.natefacs.org/JFCSE/v27no1/v27no1Jenkins.pdf>
- Kassabian, N. (2011). *Globalization in curricular elements and instructional practices in California schools: A high school case study*. Unpublished doctoral dissertation, University of Southern California, Los Angeles.
- Kymes, N. (2004, Summer). The no child left behind act: A look at provisions, philosophies, and compromises. *Journal of Industrial Technology*, 41(2). Retrieved from <http://scholar.lib.vt.edu/ejournals/JITE/v41n2/kymes.html>
- Longview Foundation. (2008). *Teacher preparation for the global age: The imperative for change*. Retrieved from <http://www.longviewfdn.org/122/teacher-preparation-for-the-global-age.html>
- Ludwig, B. (1997). Predicting the future: Have you considered using the Delphi methodology? *Journal of Extension*, 35(5), 1-4. Retrieved from <http://www.joe.org/joe/1997october/tt2.html>
- Merryfield, M. (2000). Why aren't teachers being prepared to teach for diversity, equity, and global interconnectedness? A study of lived experiences in the making of multi-cultural and global educators. *Teaching and Teacher Education*, 16, 429-443.
- Nickols, S., & Anderson, C. (2001). The essence of family and consumer sciences. *American Association of Family and Consumer Sciences*. Retrieved from <http://www.aafcs.com>

- Nickols, S., Ralston, P., Anderson, C., Browne, L., Schroeder, G., Thomas, S., & Wild, P. (2009). The family and consumer sciences body of knowledge and the cultural kaleidoscope: Research opportunities and challenges. *Family and Consumer Sciences Research Journal*, 37(3), 266-283. doi: 10.1177/1077727X08329561
- Oh, K. H. (1974). *Forecasting through hierarchical Delphi*. Unpublished doctoral dissertation, The Ohio State University, Columbus.
- Poirer, S., Faria, E., Hernandez, A., & Madia, M. (2005). Changing the interface of FCS at Florida International University. Retrieved from <http://digitalcommons.fiu.edu/cgi/viewcontent.cgi?article=1015&context=sferc>
- Redmann, D. H., & Kotrlik, J. W. (2009). Family and Consumer Sciences teachers' adoption of technology for use in secondary classrooms. *Journal of Family and Consumer Sciences Education*, 27(1), 29-45. Retrieved from <http://www.natefacs.org/JFCSE/v27no1/v27no1Redmann.pdf>
- Rehm, M., & Allison, B. (2006). Cultural diversity in family and consumer sciences: Teachers' beliefs and recommendations for teacher education. *Journal of Family and Consumer Sciences Education*, 24(1), 70-84. Retrieved from <http://www.natefacs.org/JFCSE/v24no1/v24no1Rehm.pdf>
- Rojewski, J. (2002). Preparing the workforce of tomorrow: A conceptual framework for career and technical education. *Journal of Vocational Education Research*, 27(1), 7-35.
- Schneider, A. (2003). Internationalizing teacher education: What can be done? Washington, DC: U.S. Department of Education. ERIC NO: ED480869
- Suárez-Orozco, M. (2007). Wanted global citizens. *Educational Leadership*, 64(7), 58-62.
- Zeemap for family and consumer sciences teacher education university programs. Retrieved from <http://www.zeemaps.com/view?group=714674&y=34.443536>
- Zeichner, K. (2010). *Preparing globally competent teachers: A U.S. perspective*. 2010 Colloquium on the Internalization of Teacher Education NAFSA: Association of International Educators, Kansas City.

### **About the Author**

Sally E. Arnett-Hartwick is an Assistant Professor and Program Coordinator for the FCS Teacher Education program at Illinois State University in Normal, Illinois.

### **Citation**

Arnett-Hartwick, S.E. (2016, Fall/Winter). Determining globalization competencies for pre-service family and consumer sciences teachers. *Journal of Family and Consumer Sciences Education* 33(2), 1-12. Available at <http://www.natefacs.org/Pages/v33no2Arnett-Hartwick.pdf>.