

Experiences to Develop Globally Competent Family and Consumer Sciences Teachers: A Modified Delphi Study

Sally E. Arnett-Hartwick,¹ Ph.D.

Abstract

The purpose of this study was to determine what experiences a pre-service family and consumer sciences (FCS) teacher should participate in to develop globalization competency before entering the teaching profession. A modified Delphi method was used with a panel of 28 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 should participate in nine experiences to develop their global competency. The findings provide FCS teacher educators and teacher preparation professionals with program direction to integrate essential experiences that support the development of a globally competent teacher during their education program.

Keywords: globalization experiences, family and consumer sciences, globalization competency

Globalization has blurred the lines of how individuals, families and communities live and work in today's world. Business, industry, and higher education applicants are requesting globally competent students as a requirement for entry (Conner & Roberts, 2013). Specifically, these entities are wanting employees and students to be able interact and communicate with a diverse clientele, problem-solve independently, think critically, embrace differing perspectives, and have an awareness of worldly events. As a result of globalization, workforce needs have charged the education sector with ensuring secondary and post-secondary students are globally competent upon graduation (Longview, 2008).

Conrad, Manise, Singmaster, and Watkins (2016) referred to global competency as the capacity and disposition to understand and act on issues of global significance. In order to produce globally competent graduates, the teachers and the curricula must encourage and promote the importance of globalization. However, most beginning teachers begin their career with mere surface knowledge of the world (Longview, 2008). Therefore, if teachers are not globally competent, it is unlikely they will prepare students to be globally competent. The lack of teacher competency in globalization can be a result of teacher education programs not engaging students in experiences to develop this competency (Zeichner, 2010).

Globalization in Family and Consumer Sciences

Originally founded to teach housewifery and domestic skills, 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. Fedje (1999) noted that FCS sciences professionals need to assist students in thinking critically and globally; that this type of learning is crucial for students entering careers in global industries requiring complex decision-making. Globalization has impacted every subject matter of FCS from textiles to child development to consumer education. For example, knowing international policy for textile importation; using electronic currency; or practicing electronic interviewing. FCS teachers need to be cognizant of the global approaches integrated into the individual content and experiential learning activities as it relates to advancing the FCS curriculum.

¹ Associate Professor, Illinois State University, Department of Family and Consumer Sciences code 5060, Normal, IL 61790-5060, United States of America, sarnett@ilstu.edu, 217.248.5031

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 globalization engagement opportunities in FCS, conceptually, have not been researched, individualized components have been studied. Forrest and Alexander (2004) provided 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. Also addressing the diverse FCS student classroom, Rehm and Allison (2006) suggested 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. Finally, 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.

Arnett-Hartwick (2016) studied FCS teacher educators to determine what globalization competencies are needed by secondary pre-service FCS teachers prior to entering the teaching profession. The panel identified 20 competencies needed to be considered a globally competent FCS teacher. The top six competencies were 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. Five of the 20 competencies identified were specific to FCS; these included 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. With the needed globalization competencies identified for pre-service FCS teachers, the question becomes what experiences should these students participate in order to develop globalization competency related to teaching?

Conceptual Framework

Personal and professional experiences of the teacher are an effective resource for bringing globalization alive among students (Billings, 2006). These types of experiences rely on active learning which is associated with constructivist principles, thus the theoretical framework for this study was based on constructivism. The essential core of constructivism is that learners actively construct their own knowledge and meaning from their experiences (Fosnot, 1996). The developmental process for learners fosters higher order thinking, problem solving, and collaborative work skills. Therefore, the responsibility of teachers is to provide students with active learning opportunities in exploring patterns, raising their own questions, and building their own meaning (Dolittle & Camp, 1999).

Ambre (2006) suggested that it is the responsibility of those preparing teachers to promote an environment that encourages multi-cultural appreciation within their programs. However, Merryfield (2000) indicated that teacher educators are not successfully preparing future teachers to engage and teach from a global perspective. In fact, Zeichner (2010) found that U.S. university teacher education programs were the least globalized units on campus. Given teachers are the models and are at the forefront of bringing global awareness and perspectives into the classroom, the types of experiences need to be identified to assist teacher educators, specifically in FCS, in preparing globally competent teachers. While Arnett-Hartwick (2016) identified FCS global competencies needed for teachers, the FCS literature lacks knowing what experiences teacher educators can offer at the program level in developing globally competent teachers. Therefore, the purpose of this study was to determine what experiences a pre-service FCS teacher should participate in to develop globalization competency before entering the teaching profession.

Methodology

Purpose

The purpose of this study was to determine what experiences a pre-service FCS teacher should participate in to develop globalization competency before entering the teaching profession. The specific objective was to identify global experiences that pre-service FCS teachers should obtain 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 Family and Consumer Sciences 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 that 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 experiences should a FCS pre-service teacher participate in to develop global competency?" 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 17 experiences. 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 a two-thirds of the panelists choosing Strongly Agree or Agree would move on to round three. The panel members agreed on 12 experiences 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 agree or disagree 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 that 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

Round One

A panel of 28 FCS teacher educators participated in this modified Delphi study to determine what experiences pre-service FCS teachers should participate in to develop globalization competency before entering the teaching profession.

In round one, one open-ended question was asked to the panel of respondents to build a list of experiences. From the question, what experiences should a FCS pre-service teacher participate in to develop global competency, 17 experiences were proposed by the panel (Table 1).

Table 1 Descriptive Statistics of Experiences by Delphi Rounds 1 and 2

Experiences Identified in Round 1 (n=28)		Round 2 (n=27) Agree/ Strongly Agree %
1.	Foster critical thinking skills	96.00
2.	Become aware of worldwide issues and events	96.00
3.	Participate in integrating globalization content and activities within family and consumer sciences coursework	92.00
4.	Reflect on one's own cultural beliefs and bias	92.00
5.	Participate in case- and problem-based learning	92.00
6.	Participate in diverse pre-service experiences in high/middle schools	88.00
7.	Interact with individual and families from various cultures	88.00
8.	Complete coursework in education diversity	84.00
9.	Use technology for education purposes	80.00
10.	Complete coursework in global and cultural content	73.00
11.	Participate in service-learning activities of diverse populations	72.00
12.	Work and study in diverse settings	68.00
13.	Access international resources and materials for subject matter knowledge	64.00
14.	Travel domestically	50.00
15.	Participate in professional international organizations	40.00
16.	Study abroad	38.00
17.	Travel internationally	36.00

Round Two

In round two, the panelists were asked to identify their level of agreement for each experience identified from round one. 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, five of the 17 experiences were dropped after round two due to not meeting the priori. These included (a) access international resources and materials for subject matter knowledge, (b) travel domestically, (c) participate in professional international organizations, (d) study abroad, and (e) travel internationally. Twelve experiences made up round three. Round two results are presented in Table 1.

Round Three

In the third and final round, the panelists were asked to agree or disagree with each experience item. A minimum of 80% was the benchmark for each item to be retained. Of the 12 experience items, three were dropped due to scoring below the 80% threshold. These included (a) complete coursework in global and cultural content, (b) work and study in diverse settings, and (c) participate in service-learning activities of diverse populations. Results for round 3 are presented in Table 2.

Table 2 Descriptive Statistics of Experiences by Delphi Round 3 (n=27)

Experiences	Agree %
1. Reflect on one's own cultural beliefs and bias	100.00
2. Become aware of worldwide issues and events	96.30
3. Foster critical thinking skills	96.30
4. Participate in diverse pre-service experiences in high/middle schools	92.59
5. Participate in case- and problem-based learning	92.59
6. Participate in integrating globalization content and activities within family and consumer sciences coursework	92.59
7. Complete coursework in education diversity	88.89
8. Use technology for education purposes	88.89
9. Interact with individual and families from various cultures	85.19
10. Complete coursework in global and cultural content	77.78
11. Work and study in diverse settings	74.07
12. Participate in service-learning activities of diverse populations	74.07

Discussion

FCS teacher educators who participated in the panel proposed 17 experiences but after two additional rounds came to the consensus that pre-service FCS teachers should participate in nine global experiences. These identified experiences provide FCS teacher educators with program activities to support the development of a globally competent teacher during their education program.

The experiences could be divided into two categories, self-dispositions and pedagogy. The top three experiences were reflect on one's own cultural beliefs and bias, become aware of worldwide issues and events, and foster critical thinking skills all of which are self-dispositions. These three items are consistent with Conner and Roberts (2013), Fedje (1999), Longview Foundation (2008) and Rehman Allison (2006) as needed skills for workforce entry. Additionally, the top three experiences add a global context to and assist in the development of the 21st century workforce skill set.

The other six identified experiences that exceeded the benchmark were pedagogy-related items that FCS teacher educators can incorporate into FCS-teacher related classes. These experiences included participation in: diverse pre-service experiences in high/middle schools, case- and problem-based learning, globalization content and activities within FCS coursework, coursework in education diversity, technology for education purposes, and interacting with individual and families from various cultures. These findings are all consistent with other research (Forrest & Alexander, 2004; Jenkins, Mimbs, & Kitchel, 2009; Redman & Kotlik, 2009). Integrating technology into required assignments, ensuring students are taking a social justice or multicultural education course, having students be active, not just passive by-standers while completing clinical observations/experiences, and requiring interviews with diverse families on their perspective with education are a few examples of activities that can be integrated into a program or coursework. The self-disposition experiences can set the foundation and be outcomes for the pedagogy-related experiences mentioned. For example, the use of a problem-based project for studying working conditions in Third World countries.

To illustrate, students are told to look at a clothing label to find out its manufacturing location, once identified, students are instructed to conduct research and hold a discussion of safety, employee rights, and wages in other countries. Followed with, charging students to propose solutions and present their proposals in a simulated world conference to address the international garment industry. By connecting content to everyday life, students can create a link between themselves and global issues by reflecting and comparing employment between that country and the U.S. thus thinking deeply about policy development to improve working conditions.

Interestingly, travel either domestically or internationally and study abroad experiences/tours were deemed not necessary by the panelists after being dropped in round two. Perhaps financial restraints, lack of relations development to set up international/domestic/study experiences related to FCS teacher education, and time to degree completion are possible reasons for non-consensus. However, the panelists agreed that globalization competency could realistically be achieved through classroom experiences via group discussions, case-based learning, outreach assignments, and the use of technology.

To allow pre-service FCS teachers to construct their understanding of teaching globalized FCS curricula, the context and content of FCS education programs need to be adjusted to include the experiences identified in this study to develop globalization competency. This may include redesigning courses and assignments or developing curricula training sessions. Exposing the pre-service FCS teachers to globalized experiences will allow students' to organize the experiences in a way that allows them to construct knowledge and make individualized meaning to solidify the experience as outlined by the constructivist principles.

Conclusions

The results of this study answered the question of what experiences should FCS pre-service teachers participate in order to develop globalization competency related to teaching. Teaching about globalization is not conducted in silo events but more so of a holistic approach, meaning global experiences should be an undisguisable integration of curriculum and pedagogy. The results of this study established essential experiences that will contribute to the competency development of a globalized FCS teacher.

Nine experiences identified in this study were sought as the most meaningful way for FCS pre-service teacher education students to achieve globalization competency from the perspective of FCS teacher educators nationally. The categorical results, self-dispositions and pedagogical-related experiences assist FCS teacher educators and teacher preparation professionals with ideas of how to infuse globalization experiences. Furthermore, all nine experiences can be adapted to all pre-service teacher disciplines, but by studying FCS teacher educators gives specific globalization evidence and context for the FCS teacher education discipline.

This research prompted areas of need for future research. Investigation of perceptions among FCS teacher educators regarding the importance of adding globalization experiences into their curriculum should be studied. Additionally, studying current globalization practices within program curriculum to prepare FCS pre-service teachers needs to be researched.

References

- Arnett-Hartwick, S.E. (2016, Fall/Winter). Determining globalization competencies for pre-service family and consumer sciences teachers. *Journal of Family and Consumer Sciences*, 33(2), 1-12.
- 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
- 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., Scarella, 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*. (3rded.). HoBoKen, NJ: Wiley.
- Dolittle, P., & Camp, W. (1999). Constructivism: Career and technical education perspective. *Journal of Career and Technical Education*, 16(1). Available at <https://ejournals.lib.vt.edu/JCTE/article/view/706/1017>
- 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.
- Fedje, C. (1999). Program misconceptions: Breaking the patterns of thinking. *Journal of Family and Consumer Sciences*, 17(2), 11-19.
- 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.
- Fosnot, C. T. (1996). *Constructivism: Theory, perspective, and practice*. New York: Teachers College Press.
- 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>
- 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>
- Oh, K. H. (1974). *Forecasting through hierarchical Delphi*. Unpublished doctoral dissertation, The Ohio State University, Columbus.
- 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>
- Zeichner, K. (2010). *Preparing globally competent teachers: A U.S. perspective*. 2010 Colloquium on the Internalization of Teacher Education NAESA: Association of International Educators, Kansas City.