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# Supporting Education for Students with Children through Mobile Technology

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Supporting Education for Students with Children through Mobile Technology

By

Brenda Varner

A dissertation submitted in partial fulfillment of the requirements

For the degree of Doctor of Philosophy

in


Computing Technology in Education

College of Engineering and Computing

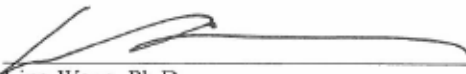
Nova Southeastern University

2017


We hereby certify that this dissertation, submitted by Brenda Varner, conforms to acceptable standards and is fully adequate in scope and quality to fulfill the dissertation requirements for the degree of Doctor of Philosophy.

  
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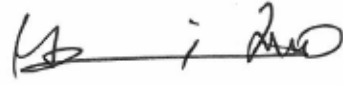
  
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An Abstract of a Dissertation Submitted to Nova Southeastern University in Partial  
Fulfillment of the Requirements for the Degree of Doctor of Philosophy

Supporting Education for Students with Children through Mobile Technology

By  
Brenda Varner  
August 2017

The original goal of this project was to build a peer e-mentoring program for parents and measure the effect of the program on persistence. In spite of strong mentor participation, two terms of focused recruiting did not attract mentees. This sparked the question of why those who had successfully navigated the higher education system thought a peer e-mentoring program was needed but those in the process did not. A focused ethnography was designed to try to understand why students with children were resistant to peer e-mentoring.

Students with children used technology to integrate the various roles of life. They used smart phones to organize, schedule, and research. They used them to schedule rides or childcare for children, communicated with professors and classmates, reviewed course resources, and whatever else they needed to communicate about.

They solved problems by taking them one at a time and planning for emergencies with contingencies. These students considered planning their best defense against failing to reach graduation. They realized establishing and keeping communication lines open was critical. They turned most often to family for help but would reach out to professors and even staff if needed. They looked for professors who were known to go above and beyond for their students just in case they needed to reschedule exams or assignments.

The overwhelming consensus about participation was that they just can't see how it is possible to make another commitment. Two mentor participants agreed to be interviewed and shared thoughts about privacy concerns but were willing to take the chance to help ease the way for another student parent. The students with children interviewed expressed the need to find solutions to constantly changing requirements but were not comfortable sharing their problems in a one to one mentoring program.

Previous studies have suggested that implementing solutions for non-traditional students required a focused needs assessment. Many programs designed to increase retention for non-traditional students have resulted in exactly the results this one originally faced, a lack of participants or low results. Ultimately these students need just in time solutions for a changing myriad of road blocks to graduation.

## **Acknowledgments**

A diverse and talented group lent their effort to assist in the completion of this study. Out of the many, there are a few I would like to thank individually. Cheryl Sarafini-Cook and Janet McCullough at Eastern Florida State College (EFSC) Lab School gave me the opportunity to explore the idea of a peer e-mentoring program for parents at EFSC. Dr. Gertrude Abramson for patience and effective innovation when the project was in peril. Dr. Steve Terrell and Dr. Ling Wang for many hours of review and helpful suggestions. The subject experts and students who reviewed, tested, and offered corrections to the materials before publication deserve my gratitude and appreciation as well. My final comment is to state my heartfelt gratitude to family and friends who have given me the space and support to realize the dream.

## Table of Contents

### Abstract iii

### Chapters

#### 1. Introduction 1

Background	1
Context	3
Problem Statement	5
Dissertation Goal	6
Research Questions	7
Barriers and Issues	8
Limitations and Delimitations	8
Limitations	8
Delimitations	9
Definition and Acronyms	10
Definition of Terms	10
List of Acronyms	12
Summary	13

#### 2. Review of the Literature 14

Overview	14
Parents in Higher Education	14
Mobile Learning in Higher Education	17
Mentoring in Higher Education	22
Persistence and Retention Theories for Higher Education	24
Summary	26

#### 3. Methodology 27

Introduction	27
Research Design Overview	28
The Original Research Design	28
The Ultimate Research Design	36
Summary	39

#### 4. Results 41

Data Analysis	42
Findings	43
Demographics	44
Technology Use	45
Problem Solving	46
Participation	47
Summary of Results	48

**5. Conclusions, Implications, Recommendations, and Summary 50**

Conclusions 51

What are the Current Accepted Principles for E-Mentoring Support Programs?  
52

What Devices, Programs, and Apps do Students with Children Use? 53

How do Students with Children Currently Solve Problems? 53

To Whom do the Students with Children Turn to for Assistance When  
Needed? 54

Why Has the Peer Mentoring For Parents Program Attracted Mentors but Not  
Mentees? 54

Implications 55

Recommendations 56

Summary 57

**Appendices**

**A.** Internal Review Board Approvals 59

**B.** Communication Scripts to Get the Conversation Going 64

**C.** Participant Orientation Slides 70

**D.** Registration Form 73

**E.** Match Selection Forms 76

**F.** Table of Experts 78

**G.** Bi-Weekly Surveys 81

**H.** Table of Questions and Variables 99

**I.** Interview Protocol 101

**J.** Table of Interview Responses 104

**References 107**

## Chapter 1

### Introduction

#### **Background**

The 1996 welfare reforms of work first created an environment making it hard for parents to return and persist in higher education (Cerven, 2013). Under The Personal Responsibility and Work Opportunity Act of 1996 (PRWORA) states are given the flexibility to design individual programs. However, those plans are required to move people from welfare assistance to the workforce. Although, the federal lifetime limit for receiving benefits is five years, the maximum time for Florida residents to receive cash assistance is four years. Furthermore, Florida applicants must complete 30 hours per week of work related activities to receive assistance and this may not be post-secondary education activities (Hahn, Golden & Stanczyk, 2012; <http://www.law.cornell.edu/uscode/text/42/607>).

PRWORA is based on the premise that a skill set will build through the work place. Would be recipients would progress to get increasingly higher level jobs eventually leading to a career (Haney, 2013). Part of the larger law of PRWORA replaced Aid for Families with Dependent Children (AFDC) programs with Temporary Assistance for Needy Families (TANF) block grants for six years (Hahn et al., 2012). Signed into law August of 1996, this is often referred to as the first reform period. The second reform period began in October 2002 with TANF grants being authorized under quarterly extensions until the Deficit Reduction Act in 2005 reauthorized the block grants



(Kim, 2012;

<http://royce.house.gov/uploadedfiles/the%201996%20welfare%20reform%20law.pdf>).

With the exception of some additional funding in 2009 and 2010 under the American Recovery and Reinvestment Act the TANF grants have remained funded at the 1996 levels forcing state governments to get increasingly creative in using the grants to fund programs. However, would be recipient families are not thriving. Livermore, Powers, Davis, and Lim (2011) examined the lives of previous welfare recipients to see how well their needs were being met. Although the participants had complied with TANF requirements by getting a job they were still accessing various governmental and social programs to make ends meet.

The most reliable route out of poverty is education (Marsh-McDonald & Schroeder, 2012). Education statistics in Brevard County start out promising with an average high school graduation rate 12 percentage points above the average in Florida but three points below the US average. The Brevard County population also outperforms the state average by 4% for obtaining at least some college

[\(<http://www.countyhealthrankings.org/app/florida/2016/rankings/brevard/county/outcomes/overall/snapshot>;](http://www.countyhealthrankings.org/app/florida/2016/rankings/brevard/county/outcomes/overall/snapshot)

[http://www.census.gov/content/dam/Census/library/publications/2016/demo/p20-](http://www.census.gov/content/dam/Census/library/publications/2016/demo/p20-578.pdf)

[578.pdf](http://www.census.gov/content/dam/Census/library/publications/2016/demo/p20-578.pdf)). However, according to [spacecoastedc.org](http://spacecoastedc.org) only 25% of the population persists to a bachelor's degree, 4% points below the national average of 33%. These statistics do not account individually for parents in Brevard County however, national statistics for parents offer little hope, with estimates of only 28% of parents persisting to graduate

within six years with a bachelor degree or less. Single parents fare much worse with only 17% persisting to graduate within six years (Gault, Noll & Reichlin, 2017).

## **Context**

This research sought to understand why students with children have resisted using mobile technologies for peer mentoring in higher education at Eastern Florida State College (EFSC) in Brevard County, Florida. Parents often struggle with the balance of school, work, and family leaving little or no time on-campus for extracurricular activities such as participating in a traditional mentoring program (Estes, 2011). E-mentoring removes the barriers of time and space (Panopoulos & Sarri, 2013). Peer mentoring is a formal or informal collaborative relationship of two similar individuals who work together to fulfill a need (Collings, Swanson & Watkins, 2014; Douglass, Smith & Smith, 2013; Mollica & Mitchell, 2013). Student support is needed most in the early days of a foray into higher education as new students attempt to navigate the unknown waters of blending a new activity into an already busy life (Collings et al., 2014). For parents entering higher education the additional role of student comes with conflicting cultural expectations both of which required a total commitment of time and resources for both the roles of parent and student. Therefore a student parent was always balancing resources and never quite living up to the cultural standard of either (Estes, 2011). Often, giving students a venue to vent the pressure will increase intent to persevere (Morton, Mergler & Boman, 2013). However, this venue must feel safe or the student will not utilize the resource (Park, Cerven, Nations & Nielsen, 2013). Peer mentoring provides opportunities for social and emotional support when the mentors and mentees are matched based on mutual goals and interests (Douglass et al., 2013).

A peer e-mentoring for parents program was established at EFCS in February 2016. The program was developed using best practices as published by various educational and governmental institutions. The formal activities were designed to get the conversation started between mentors and mentees. These activities focused on relationship dynamics combining Becky Bailey's (2000) seven powers of self-control with Chickering and Reisser's (1993) seven vectors of development. Attempts to recruit mentee participants on the campuses of EFSC as well as through social networking channels were unsuccessful although mentors readily agreed to participate. Using social networking channels should reach students who do not spend time on-campus and new students who are not yet participating in on-campus activities. Following the lead of previous researchers an invitation to participate in the program was posted on various social networking sites, sent through email blasts, and through flyers distributed on-campus (Damron, Harville, Niemira & Soto, 2012; Putsche, Storrs, Lewis & Haylett, 2008). Although there were inquiries about the program only 2 mentees registered to participate. One mentee stopped communicating before finishing the mentor selection survey and the other mentee stopped communicating right after accepting her mentor assignment. She never actually communicated with her mentor.

The removal of time and space is a two-sided sword. It allows participation by those that otherwise may not be able to participant in a face-to-face mentoring scheme but the unstructured relationship also allows a decreased commitment to the program (Mollica & Mitchell, 2013). Whether the students who stopped communicating left EFSC or just decided to not participate in the program may never be known but

understanding why the mentee population has resisted the current program may help future programs better serve the needs of students with children.

### **Problem Statement**

College enrollment numbers were used to examine the impact of the PRWORA on enrollment. Overall, enrollment for single mothers declined as noted in previous studies. However, Kim (2012) isolated the results to two and four year enrollments as well as between part-time and full-time enrollments. During the second reform period between 2003 and 2008 enrollments for single mothers rebounded showing a positive increase for part-time enrollments. However, part time enrollment is just another hurdle for these nontraditional students already struggling with multiple challenges to persistence (Cox & Ebbers, 2010; Radey & Cheatham, 2013).

The problem of persistence in higher education is especially pronounced for single mother students (Cerven, 2013; Park et al., 2013; Radey & Cheatham, 2013; Wilsey, 2013). St Catherine University identified the retention rate of single mothers rated a minimum of 10% lower than other identifiable non-traditional student groups noting these students were a traditional student age with a non-traditional student set of challenges. In response to the lower retention rate, St Catherine University began The Steps to Success program for single mother students. The program offers a small scholarship but more importantly offers biweekly meetings to address issues proactively. In spite of multiple stresses involving a full range of issues from child care to homelessness the young women persisted 60% more than their counterparts not enrolled in the program (Demeules & Hamer, 2013).

Following in the footsteps of St Catherine University a peer mentoring program for parents was established at EFSC in Brevard County Florida. Although there were mentors ready and willing to participate in the program there was no one for them to mentor. Although every parent encountered who had successfully navigated their way to graduation agreed there was a great need for this program the problem of no mentees persisted through two terms of focused recruiting. This deficiency lead to the current overarching question for this research. Why does the current population of students with children resist peer e-mentoring?

### **Dissertation Goal**

Current researchers in the field of non-traditional student persistence agree more studies such as the one at St Catherine's University are needed. In addition, they agree on a few other important points. First, the number of students in higher education considered to be non-traditional is rising. Second, non-traditional students have a negative influence on graduation rates. Third, the needs of non-traditional students are varied. Fourth, institutions need to establish retention policies geared specifically toward these students. And finally, these policies need to be adaptable to meet the changing needs of specific subsets of non-traditional students such as students with children (Arnold & Hickman, 2012; Goldrick-Rab, Carter & Wagner, 2007; Hunsaker & Thomas, 2013; Katz, 2013).

The original goal was to build a peer e-mentoring program for parents and measure the effectiveness of the program on persistence for single mothers at EFSC. While strategies for the retention of non-traditional students abound, many institutions adopt strategies without considering the unique characteristics of a particular population

gathered under the non-traditional student umbrella, often yielding unsatisfactory results (Arnold & Hickman, 2012; Goldrick-Rab et al., 2007). Tinto's (1975) model of persistence was built based on the traditional student's need for social integration. However in 1985, Bean and Metzner introduced a model of nontraditional student attrition based on academic and environmental variables with social integration variables demoted to having only a possible effect on retention. Although Mamiseishwili and Deggs' (2014) research supported Bean and Metzner's theory of a reduced need for social integration for non-traditional students, Cerven's (2013) research of the lived experience of single mother students noted the participants spoke of the importance of a social support system. The need for focused programs for individual groups of non-traditional students is well documented. However, student participation is the key to understanding what program content is most beneficial. If those who have successfully navigated the waters of higher education consider a program worthy but the current population does not see the value then the question must be asked, why is the current population resisting program participation? The ultimate goal of this dissertation was to add to the body of knowledge concerning student parent participation in a peer e-mentoring program.

### **Research Questions**

- 1. What are the current accepted Principles for E-Mentoring Support Programs?*
- 2. What devices, programs, and apps do students with children use?*
- 3. How do students with children currently solve problems?*
- 4. To whom do the students with children turn to for assistance when needed?*

5. *Why has the Peer Mentoring for Parents Program attracted mentors but not mentees?*

**Barriers and Issues**

The first and by far biggest barrier is the lack of persistence within the defined population. It may be that at the end of the term not enough of the population stayed with the program to obtain enough data from which to draw conclusions.

The second area that could prove problematic is obtaining an average GPA rating for the population at large. The data are not always collected based on parenthood and the data that do exist in the literature presents a wide range of students and are not limited to the population under study.

Finally, the third barrier is getting student parent's attention for participation. Limiting the length of the interview and offering an incentive for participation should at least partially combat this barrier.

**Limitations and Delimitations**

*Limitations*

The first limitation is the self-report during the interview process. The interview questions were kept to the topic of technology used in the sense of education. Demographically collected details were kept to a minimum and designed to get the participants talking about themselves easing into the more personal questions. However, some of the participants expressed concern about confidentiality which could impact the honesty of the answers.

Each type of interview modality chosen by the participants has advantages and disadvantages presenting some limitations generalizing the data. Face to face interviews

offer the advantages of nonverbal visual clues and conversation spontaneity. Voice calls and text based interviews lack the nonverbal visual clues but gives the participant a certain level of perceived anonymity. Text based interviews give each side the ability to process the information before formulating a response however if too much time passes the interview could lack conversation spontaneity. Finally, text based interviews may hinder building the critical relationship between interviewer and participant (Ratislavová & Ratislav, 2014).

Impacting the generalization of results is the very specific subgroup of nontraditional students. Participants are from a distinct population of students with children from a community based institution only recently granting limited bachelor degrees. The institution's main focus remains on granting two-year associate degrees. In addition, this is a new mentoring program, the results may not be generalizable to mature programs.

#### *Delimitations*

The small population to be interviewed. Unfortunately, it is those most engaged that will respond to a request to be interviewed and that will skew the results towards the most likely to succeed as opposed to the least likely. The population sample size was chosen to allow for variety within the population for example new students and more advanced students but also to keep it small enough to be manageable for the project at hand.

Not recording the interviews. From a strictly ethnography standpoint this limits the researcher's ability to discover the native language of the population (Spradley, 2016). This decision was made to make the participating students with children feel more



comfortable about the potential for their confidence to be broken. A participant could see what the hand written notes used to code the interview responses contained as the interview progressed.

## **Definition and Acronyms**

### *Definition of Terms*

**Behaviorism** – a learning theory that relies on association reinforcement between stimuli and response to change student behavior (Naismith, Lonsdale, Vavoula & Sharples, 2004).

**Collaborative learning** – encourages students to gain knowledge through social interaction (Naismith et al., 2004).

**Conscious discipline** – a program developed by Becky Bailey (2000) to teach parents and educators methods to evoke appropriate behavior from children.

**Constructivism** – a learning theory based on using previous knowledge as building blocks to support constructing new concepts (Naismith et al., 2004).

**Electronic communication** - any communication method facilitated through the use of an electronic device (Author).

**Experience question** - asks the informant to relate any experiences within a specific setting (Spradley, 2016).

**Face to Face** - in person communication by two or more people (Author).

**Grand tour question** - asks an informant to verbally describe the details of a cultural scene (Spradley, 2016).

**Informal and lifelong learning** – knowledge is gained through continuous interaction with the environment outside the classroom (Naismith et al., 2004).

**Informant** - a native speaking source of information generally engaged to teach about a particular cultural scene (Spradley, 2016).

**Lab School** – a center for parent co-operatives to meet while building strong foundations for family and community through play and education  
(<http://www.easternflorida.edu/community-resources/continuing-education/lab-school-parent-education/>).

**Learning and teaching support** – activities required to coordinate student resources (Naismith et al., 2004).

**Mentoring** – a supportive relationship with a senior person helping the junior person to create and obtain specific goals (Collings et al., 2014; Douglass et al., 2013).

**Mobile technology** - devices designed to be used on the move taking advantage of mobile networks (Hashemi, Azizinezhad, Najafi & Nesari, 2011).

**Mobile learning** – educational information obtained without regard to time or space using mobile technology (Naismith et al., 2004; Ozdamli & Cavus, 2011).

**Non-traditional Undergraduate Student** – students who have one or more of the following characteristics: part-time attendance, dependents, entered higher education before or after the fall following high school graduation, or works more than part-time (Bean & Metzner, 1985; Radey & Cheatham, 2013).

**Peer mentoring**- a supportive relationship between peers working toward a common goal (Collings et al., 2014; Douglass et al., 2013).

**Psychosocial development** – stages of personality development punctuated by periods of conflict and resolution (Schunk, 2008).

**Psychosocial support** –support through a phase of psychosocial development (author).

**Relational cultural theory** – a developmental theory from the field of counseling posits individual growth is the result of participating in mutually authentic and empowering relationships (Comstock & Hammer, 2008; Douglass et al., 2013).

**Single mother** – a women who lives with her children without a supporting partner (Mather, 2010).

**Situated learning** – encourages knowledge growth by placing the learner in an authentic situation (Naismith et al., 2004).

**Socialized learning theory** – social interactions encourages learning (Douglass et al., 2013).

**Text message** – Electronic communications designed to be sent over mobile networks (Author).

**Time series research** – a research design for studying a single group of participants over a course of time using multiple surveys pre and post treatment (Creswell, 2008).

**Traditional Undergraduate Student** – single person between the ages of 18-24 who entered higher education as a full time student in the fall following high school graduation (Bean & Metzner, 1985).

**Vectors of development** –an in depth break down of the seven groups of concerns, tasks, and outcomes to be accomplished to obtain the competency of Erikson’s psychosocial development stage of identity development (Widick, Parker & Knefelkamp, 1978).

#### *List of Acronyms*

AFDC - Aid for Families with Dependent Children

EFSC - Eastern Florida State College

IRB – Internal Review Board

NSU – Nova Southeastern University

PRWORA - Personal Responsibility and Work Opportunity Act

SIPP - Survey of Income and Program Participation

SMS – Short message service

TANF - Temporary Assistance for Needy Families

### **Summary**

Students with children are a specific subgroup of nontraditional students who struggle to persist in higher education. Their unique blend of barriers to persistence results in only 26% completing bachelor degrees in six years. A peer mentoring program was established using mobile technology aimed to increase their social support system and improve perceptions of social integration, an important variable for student persistence. However, lack of mentees resulted in a change of the focus of the research to ask why.

## Chapter 2

### Review of the Literature

#### **Overview**

This literature review is organized in four sections: parents, mobile technology, peer mentoring, and finally, persistence and retention theories. Parents as sub-demographics under the umbrella of non-traditional students experience a unique mix of motivations and challenges supporting the need to create and evaluate programs specifically for retaining this population. Defining and theorizing mobile learning has proven to be a controversial question with arguments being made based on the location of the student along a continuum to characteristics of the device used to obtain the information. Peer mentoring in higher education is well established in the literature as a treatment to promote retention for the general population however; multiple definitions and theories have created ambiguous conclusions. Persistence and retention theories revolve around socialization beginning with Spady in the early seventies, refined by Tinto (1975), and finally, Bean and Metzner (1985) who downplay the need for socialization for non-traditional students.

#### *Parents in Higher Education*

Only a quarter of the student population can be defined as traditional and more than half of nontraditional students support at least one dependent (Brown & Nichols, 2012; Nichols, Biederman & Gringle, 2016). A student with children's lifestyle encompasses virtually every challenge associated with non-traditional students (Spaulding, Derrick-mills & Callan, 2016). Fortunately, these challenges are not

mutually exclusive. For example, students in Estes (2011) stated being a parent makes you a better student which makes you a better parent.

Spaulding et al. (2016) used data from the Survey of Income and Program Participation (SIPP) to examine the characteristics of low income families who are combining work and education. Of these parents 46% work fulltime, 67% could not choose their work schedule and only 19% reported choosing a work schedule to accommodate education. Mothers made up 71% of the population. Single parents make up 56% of the population however 67% reported having another adult in the household. Almost half are combining fulltime education and work.

Students with children have a higher intrinsic motivation to be successful and being a parent provides their number one motivation for returning to and persisting in higher education (Cerven, 2013). Some researchers suggest students with children have the advantage of maturity, career focus, and self-awareness. However, these advantages are offset by schedule flexibility, family commitments, and financial responsibilities (van Rhijn, Lero & Burke, 2016).

Students with children have noted role modeling and future life styles as advantages their children will receive as a result of continuing their education (Estes, 2011; Marsh-McDonald & Schroeder, 2012). These students feel that they receive information to be better parents in addition to improving their earning potential and meeting personal goals (Forste & Jacobsen, 2013; van Rhijn et al., 2016; Wilsey, 2013).

Children also provide one of the biggest barriers to persistence (Cerven, 2013; Radey & Cheatham, 2013). Through interviews and focus groups multiple persistence barriers relating specifically to children have been identified. Access to child care is the

barrier most often cited (Spaulding et al., 2016). Other barriers relating to children include a lack of family friendly culture on-campus and additional financial responsibilities (Brown & Nichols, 2012; Nichols et al., 2016; Yakaboski, 2010). Adding a role of student to the already strained roles of employee and parent creates a syndrome called role strain which results when responsibilities of individual roles collide (Forste & Jacobsen, 2013; Peterson, 2015; Zabkiewicz, 2010). Conflicting responsibilities wear at the social norms of being a student and parent. Even though only 27% of the student population can be defined as traditional the ideal student is still perceived as young and naive while the ideal parent as married and financially secure (Brown & Nichols, 2012; Estes, 2011).

A supportive environment within and without the institution is critical to success (Cox & Ebbers, 2010; Marsh-McDonald & Schroeder, 2012; van den Berg & Mamhute, 2013). Park et al. (2013) note it is all about relationship building. A female friend's support is seen as more important than even family support. Female study groups often morph into support groups (Cox & Ebbers, 2010). However, Offer (2012) cautions a social network is a for profit institution. Members who do not meet the contribution requirements are often excluded. Harley, Winn, Pemberton, and Wilcox (2007) discuss the importance of social support for students attending higher education for the first time. Their research on the use of text messaging indicates the important role it plays in the communication habits of students both for formal and informal information requirements. In particular, they found that mature students used texting technology to attend to practical matters such as daycare in addition to providing emotional support.

Students with children spend less time on-campus than other students leaving them feeling disconnected (Park et al., 2013). The ability of an institution to remove barriers and provide support is directly linked to the success of students (Arnold & Hickman, 2012; Davidson & Wilson, 2017). In addition, the resources each student has available outside academia have a big impact on the student's experience (Estes, 2011). However, Park et al. (2013) warn availability does not equal access. Parenting issues are perceived as the responsibility of the student and developing a rapport with teachers is necessary to request accommodations. However not all faculty encourages interaction and some students lack appropriate communication skills to begin the conversation (Nichols et al., 2016). Students with children are often invisible and need to be made full members of the community if their success is to be increased (Brown & Nichols, 2012).

#### *Mobile Learning in Higher Education*

Mobile learning has been defined as learning based on where the student obtained the information along a spectrum to device specific. Martin and Ertzberger (2013) defined m-learning based on characteristics of the information obtained and when it is obtained. However, Stevens and Kitchenham (2011) defined m-learning based on the characteristics of the device used to obtain the information.

Some would say focusing on the device instead of the pedagogy makes the discussion too techno-centric. However, the current technology dictates that the device does matter. Things such as operating systems, available apps, and even battery life differ among the various devices available on the market today. Hashemi et al. (2011) note even ownership matters as students will behave differently on a borrowed device than an owned device. In addition, students who have multiple devices may more easily



overcome technical challenges than those who own only one device. Finally, the reason for ownership may influence a learner's educational choices for using the device. For example, a gaming device owner will look for educational games whereas an owner of a mobile phone used primarily for work may look for a more formal educational option.

Focus on the student's location only is also fraught with holes. Definitions focusing on the learner dictate the learner is not in a fixed location at a predetermined time. However, mobile technologies can be utilized during a regularly scheduled face to face class as a teaching aid. Learners may more easily interact with other students and the teacher without a large monitor between them (Hashemi et al., 2011).

Hashemi et al. (2011) indicate the mobility of the device, learner, and content are all important considerations in defining mobile learning. The key concept for arriving at a definition is mobility. As learners move among fixed and mobile points of learning the pedagogy must move away from the technology and focus on the interactions between the technology and the other people involved in the educational process. It is these relationships that constitute mobile learning.

Attempting to establish a theory has presented a new set of challenges. E-learning theories stand on the stability of the technology which has become sufficiently mature to no longer interfere with the pedagogy. However, mobile technologies are still sufficiently inconsistent to dissuade this argument. Traxler (2010) sums up three options for building a mobile learning theory, as well as the issues for each option. The question of transferability is unanswered by importing a theory from tradition e-learning. Developing a theory offers questions of validity. Finally, routing around the issues of

transferability and validity using an abstract education theory leaves open questions about specificity.

Naismith, Lonsdale, Vavoula, and Sharples (2004) Naismith et al. (2004) suggest blending multiple theories and practices to take best advantage of the mobile learning technologies. They give practical examples from four theories and two practices: behaviorism, constructivism, situated learning, collaborative learning, informal learning, and learning support.

Behaviorism relies on reinforcement of associations between stimulus and response to change the observable actions of the student. Mobile learning can provide immediate feedback to students while drilling fundamental skill sets (Naismith et al., 2004).

Constructivism posits that learners use previous knowledge as building blocks to actively construct knowledge about new concepts. Furthermore, the instructor supports the building of knowledge as opposed to communicating that knowledge. Constructivism takes advantage of problem based learning. Payne, Morris, Tempest, and Griffin (2009) proposed a problem to 25 meat workers. Upon completing an e-learning module 22 out of 25 workers learned chromosome analysis using only the e-learning module. Participants liked the ability to work at their own pace and in their time and space. They also cited being able to make mistakes in private as an advantage to the e-learning module. In addition, they liked the problem based scenarios presented for learning the new skill set. Mobile learning provides immersive experiences while placing learners in real contextual situations. The challenge is to keep the technology from interfering with interactions between learners (Naismith et al., 2004).

Situated learning places the learner within authentic context. Mobile learning is particularly suited to situated learning since the devices are portable and easy to take into any situation for an authentic learning experience (Naismith et al., 2004).

Collaborative learning takes place through social interaction. Mobile devices offer a portable and convenient form of ongoing communication (Naismith et al., 2004). Social collaboration is an important component of mobile education (Kukulska-Hulme, Sharples, Milrad, Arnedillo-Sanchez & Vavoula, 2009).

Informal and lifelong learning research indicate learning is an ongoing process that happens as a result of influences in the environment and situations presented outside the classroom. Mobile learning devices place instantly available information in virtually any environment encouraging constant ongoing education (Naismith et al., 2004).

Learning and teaching support encompass all those activities required to coordinate various learning resources with students. Mobile devices can be used for teacher activities such as attendance and schedule management. In addition, students can access course and administration details. Administrators can use mobile devices to push relevant information to students and teachers for just in time delivery (Hashemi et al., 2011; Naismith et al., 2004).

Although new smart mobile devices may function like computers the smaller size and weight of the device add new advantages and disadvantages to the e-learning learning process. Some characteristics add both an advantage and a disadvantage to the equation. For example the smaller size means that the device is easily carried and available anywhere anytime. However, the smaller size means the educational material must be resized to fit within the confines of the smaller screen (Hashemi et al., 2011;

Naismith et al., 2004). One of the challenges of mobile learning is to organize the elements of a learning module efficiently while optimizing interaction (Ozdamli & Cavus, 2011).

There are other advantages to the use of mobile technology for educational purposes. Mobile learning supports individual learning interest in authentic situations. A person can obtain or record information instantly on site to trouble shoot or problem solve (Kukulska-Hulme et al., 2009; Traxler, 2010). Geographic boundaries are eliminated allowing sustainable group interactions (Dillenbourg & Crivelli, 2009). Mobile forums promote a friendly student teacher relationship allowing the teacher to facilitate the information instead of just delivering it. And finally, students have the flexibility to work at their own pace and convenience wherever they feel most comfortable (Ogunduyile, 2013).

There are disadvantages to the use of mobile technologies as well. Network problems, short battery life and unstable electricity in some parts of the world challenge the technology. Other disadvantages related to the device include limited storage capacities and lack of a common operating system or hardware platform make it difficult when developing content for use by students who bring their own devices (Hashemi et al., 2011).

There are disadvantages related to human computer interactions. For example, Ogunduyile (2013) found student attention span to be less than an hour when using mobile forums. In addition, students have become accustomed to using a type of shorthand, also known as text-ease, when texting or emailing from a mobile device. They

had a tendency to resort back to text-ease when submitting text based comments despite directions to the contrary.

### *Mentoring in Higher Education*

Mentoring has been linked to improved academic performance, experiences, and degree attainment. Mentoring accomplishes this through better social relationships, emotional wellbeing, and skill development (Zevallos & Washburn, 2014). Social learning is the process through which humans learn through watching the behavior of others (Wisdom, Song & Goldstone, 2013). Researchers around the world have touted the advantages of mentoring for as long as there has been education research (Boyle, Kwon, Ross & Simpson, 2010; Zevallos & Washburn, 2014). In addition, recent researchers have identified that more research is needed for mentoring specific subgroups of students' particularly nontraditional groups specifically for retention.

Peer mentoring has been defined as a formal or informal supportive relationship between two people working collaboratively to fulfill a need (Collings et al., 2014; Douglass et al., 2013). Zevallos and Washburn (2014) state mentoring is a critical strategy for retention of underserved students. Peer mentoring may provide social and emotional support if mentors and mentees are matched based on age or experience. Furthermore, Douglass et al. (2013) affirms undergrads are more likely to ask a peer mentor for support than an instructor because a peer mentor is less intimidating.

E-mentoring uses current electronic forms of communication to establish and foster the mentoring relationship. Electronic communication removes barriers such as time and space as well as increases the pool of available mentors. In addition, removing social, physical, or behavioral incompatibilities allows relationships to build on openness,

honesty, trust, and flexibility. However, lack of body language may present a barrier (Panopoulos & Sarri, 2013).

The primary goal of mentoring is to lead a mentee to be self-reliant in developing and obtaining their personal or career related goals. This leads contemporary mentoring theories to share some commonalities with theories of learning, self-regulation, adult development, organizational behavior, leadership and systems operations. For example socialized learning theory proposes learning occurs as a function of social interactions (Douglass et al., 2013). Self-regulation activities involve setting a goal and using available resources to set, apply, and adjust strategies to successfully achieve the goal (Schunk & Mullen, 2013). Relational-Cultural Theory posits relationships based on mutual growth foster human development. And finally, complementary concepts suggest that even though the mentor may be more knowledgeable the relationship is mutually beneficial because the mentor is learning other skills such as effective communication.

In essence mentoring relationships are socialized learning partnerships which develop and change over the course of the interactions. In the beginning of the partnership the mentor provides either formal or informal psychosocial and/or career related support to assist the mentee to the successful achievement of specific goals. As the relationship matures, the mentee becomes more independent changing the dynamics and enhancing the development of the mutual relationship (Schunk & Mullen, 2013).

To be successful the mentoring relationships must be appropriately matched and supported. Participants in mentoring for retention studies have indicated spending the time to match mentors and mentees will result in more successful mentoring relationships. Boyle et al. (2010) reviewed three studies specifically related to mentoring

for retention from three different countries. All three studies matched mentors first on course, followed by geographic location. In the UK study this was followed by domestic situation and stated preference for gender and/or age.

To support the mentoring process Boyle et al. (2010) suggests providing literature and hosting learning events about the mentoring process. Shojai, Davis, and Root (2014) suggest the developmental relationship is a key ingredient in successful intervention programs. Effective developmental relationships require attachment, reciprocity, progressive complexity, and balance of power. In e-mentoring the mentor provides a safe and non-threatening environment however, the mentee must lead the process which is facilitated by the mentor (Risque & Sanchez-Garcia, 2012).

Mentoring is a critical strategy for the retention of underserved students. Students have attributed overcoming challenges in both their academic and personal spaces to a mentor. For example, Shojai et al. (2014) used paired sample t-tests from a mandatory program for 225 students whose GPA had fallen below 2.0 to conclude that mentoring increases GPA not only in the short term but continues for at least three semesters following the intervention. The mentors have reported building professional skills and gaining confidence as leaders directly translatable to their professional transition to the workplace. Peer mentoring appears to be a winning situation for all stakeholders involved in the process. Mentees persist, mentors gain leadership skills and the institution retains more at risk students (Zevallos & Washburn, 2014).

#### *Persistence and Retention Theories for Higher Education*

The simple explanation of Spady's (1970) model of dropouts from higher education is that all factors lead to social integration. Satisfaction is directly influenced

by social integration. And finally, institutional commitment is directly influenced by satisfaction which directly influences the decision to drop out. The only factor to bypass social integration is grade performance (GPA) which may lead directly to a dropout decision.

Tinto (1975) built on Spady's model examining the college experience through the lens of a social system. In Tinto's now seminal model, he splits goal and institutional commitments into two paths, academic and social respectively. Both paths lead to the dropout decision but use different factors to influence the decision. It is the interaction between these commitments that ultimately influence the decision to persist or quit.

Bean and Metzner (1985) introduced a theory for non-traditional student attrition. They argued that the existing theories of attrition by Spady and Tinto are based in socialization. These theories conclude that the amount of social interaction a student has with the institution will positively relate to persistence. However, Bean and Metzner note that literature comparing traditional and non-traditional students found that non-traditional students were less interested in participating in campus related social activities. Furthermore, in studies reviewed for their 1985 seminal article, half included social integration factors and none of the reviewed research with non-residential student bodies resulted in a positive correlation to persistence.

Regardless, social integration variables remain a part of Bean and Metzner's (1985) model as a potential mediating variable affecting psychological outcomes like satisfaction, goal commitment, and stress which have an important direct effect on intent to leave. Leary and Derosier (2012) suggest future research into how and what interventions work to alleviate stress through promoting social connections is needed.



Results indicate social connectedness and cognitive style were the most important predictors of stress during college transition.

Administrators must understand the needs of student-parents if they are to promote retention (Estes, 2011). The current retention theories focus on social integration however students with children do not have time to spend fostering relationships during face to face activities on the brick and mortar campus.

### **Summary**

Students with children often find themselves at odds balancing the need for social support and a lack of time for on campus group involvement. E-mentoring presents a potential alternative using mobile technologies to remove the barriers of time and space while connecting pairs of students with children for peer mentoring.

## Chapter 3

### Methodology

#### **Introduction**

The Eastern Florida State College (EFSC) Lab School for Parent Education has programs for parents and children accessible to both students and the community located on and off the campuses of EFSC. Their brick and mortar centers focus on building strong families through a parent cooperative (<http://www.easternflorida.edu/community-resources/continuing-education/lab-school-parent-education/>). Families attend meetings divided into two parts; theory and floor time. Meetings are structured based on the child's age. Parents attend periodic theory meetings to learn about their child's physical and mental developmental stage, psychology parenting, and relationship dynamics. Families attend floor time to put the theory into practice. The lab school would like to reach out to more parents than their on-campus facility has the capacity to reach utilizing the current programs.

The peer e-mentoring program was built to guide the study. The e-mentoring program would begin as a club and the study results would help determine the feasibility of continuing the program on a larger scale. The formal activities of the mentoring program were designed to focus on relationship dynamics using the seven powers for self-control. According to Bailey (2000) mastering self-control allows a person to approach activities and relationships through a lens of disciplined awareness. However, the lack of mentee involvement in the mentoring program resulted in a new question. Why do we have mentors willing to help but no mentee's asking for help?

## **Research Design Overview**

Internal review board (IRB) permission to perform the research was received from both Nova Southeastern University (NSU) and EFSC to establish the mentoring program for all students with children based on best practices and study the results for single mother participants using a time series methodology. The lack of mentee participation resulted in a return to both NSU and EFSC IRB for permission to change the study by adding an ethnology component. However, the lack of mentees was universal across students with children so the research was broadened to encompass all those students with children eligible to participate in the mentoring program requiring a second amendment to the study. All approvals are available in Appendix A.

Instrumentation was developed for each type of research based on the best practices identified through the experts in the fields of survey and ethnology research. Field experts and a small pilot group of students with children reviewed all instruments. Their recommended changes were implemented prior to being used with study participants.

## **The Original Research Design**

The original research design was to establish a peer e-mentoring program for students with children that could be used to measure the effect of e-mentoring on retention for single mothers. Throughout the course of the first term the effect of e-mentoring on retention for single mothers would be measured using time phase research.

The peer e-mentoring program was designed based on the best practices found through a review of current mentoring programs in various governmental and professional organizations. A basic customizable step-by-step process for establishing a

mentoring program was revealed (Cambridge Community Services, 2013; Mentor, 2009; San Diego City College, 2011; Tuttle, 2010; United State Office of Personnel Management, 2008; <http://www.shrm.org/communities/studentprograms/pages/mentorprogram.aspx>).

*Step 1: Identify goals*

Goals provide the foundation for the entire program. The goals will drive the type of mentoring which lays the groundwork for the details. Each type of mentoring requires a different type of participants, duration, and content. In addition, establishing solid goals for the program is essential to evaluation upon which financing may be based (Cambridge Community Services, 2013; Mentor, 2009; San Diego City College, 2011; Tuttle, 2010; United State Office of Personnel Management, 2008; <http://www.shrm.org/communities/studentprograms/pages/mentorprogram.aspx>).

There are five recognized types of mentoring programs. Traditional mentoring is a one to one formal relationship in which the mentor is typically more advanced than the mentee. Group mentoring takes place when one mentor interacts with multiple mentees in the same session. Team mentoring involves multiple mentors to multiple mentees in each interaction. Peer mentoring involves two or more individuals who are from a similar peer group and may be organized into a traditional, group, or team mentoring scheme. E-mentoring uses electronic technologies for the communication median for any of the program types described above (Mentor, 2009).

The goal was to provide students with children psychosocial support without further taxing the demands on their time. Persistence theories stress the need for students to feel socially connected to the school and their fellow students. However, students with

children are often already suffering from role strain and do not have the availability to attend on campus social functions (Forste & Jacobsen, 2013; Zabkiewicz, 2010). This program will match peers who will use mobile technologies as the means for most communications.

*Step 2: Establish program content, mentor strategies, and mentor support*

Interaction contents should be based on the developmental needs of the participants in addition to their age and experience level. Program content and mentor strategies are materials mentors share with their mentees and should be based on accepted teaching and learning principles appropriate for the targeted age group of the mentees. Mentor support materials should be designed for the targeted age and experience level of the mentors. A final consideration is how the content will be communicated (Cambridge Community Services, 2013; Mentor, 2009; San Diego City College, 2011; Tuttle, 2010; United State Office of Personnel Management, 2008; <http://www.shrm.org/communities/studentprograms/pages/mentorprogram.aspx>).

Mobile technologies stimulate social collaboration providing an outlet for individualized authentic learning opportunities. However, the physical characteristics of mobile devices must be considered when delivering content (Kukulaska-Hulme et al., 2009; Ozdamli & Cavus, 2011; Traxler, 2010).

Chickering and Reisser (1993) first introduced the seven vectors of development in 1969 building on Erikson's eight stages for psychosocial development. Erikson theorized each stage presented a challenge which may progress, regress, or immobilize maturity when physical and cognitive growth collide with environmental demands. According to Erikson's model the challenge of students entering college is identity

stabilization. Chickering and Reisser used identity stabilization as an anchor for developing a model to guide educational practice in higher education. However, developing a model does not give us specific tools useful for helping students develop the necessary skills to progress through the model.

The lab school at EFSC has an established program for parents based on Becky Bailey's Conscious Discipline program. Bailey's (2000) program of conscious discipline was developed to teach educators and parents how to elicit appropriate behavior from children. Bailey's program draws from many disciplines and builds on many existing theories; however, at the heart of her program is the personal growth of the adult. The first step is for the adult to learn and model the seven powers for conscious adults. The seven powers have a proven track record for building self-esteem and installing the tools to respond to stressful situations proactively by changing an individual's relationship with conflict. This in turn raises emotional intelligence positively impacting interactions in all relationships.

Bailey's hands on approach to self-control delivered against the backdrop of Chickering and Reisser's vectors of development form the basis of the talking points designed to build the relationship between mentor and mentee. In addition, the talking points present common sense tools for students dealing with the stress of a new role and offer effective communication skills to help increase socialization with the student's new school based social group. Scripts for the talking points are presented in Appendix B.

An outline for participant orientation presentation is provided in Appendix C. This material provided the requirements and expectations for each participant group. In addition, a class was established using a Wiki Classroom as a repository for participants

to store and access material. This also provided a place for each group (mentors and mentees) to support and learn from each other.

*Step 3: Establish the expected duration of the relationship and contact frequency*

The details of the relationship should consider the availability, geographical location, technology, and program size. In addition, there should be a no-fault way out for those pairs that are not well matched (Cambridge Community Services, 2013; Mentor, 2009; San Diego City College, 2011; Tuttle, 2010; United State Office of Personnel Management, 2008;

<http://www.shrm.org/communities/studentprograms/pages/mentorprogram.aspx>). The national mentoring partnership recommends a minimum of four hours a month for a year with exceptions for programs designed around organizations that do not use a traditional year time measurement. Specifically school based programs should be designed around the school calendar (Mentor, 2009).

This peer e-mentoring program was designed to initially last one semester, timed with the semester of the Lab School at EFSC. The future of the program was to be determined based on this initial study. After considering the time requirements of the participants and the recommendation of the national mentoring partnership, the formal scripts were designed to be delivered every two weeks with four monthly voluntary on-campus activities. Participants would be encouraged to communicate informally as needed to support each other through the rigors of being a student with children.

*Step 4: Recruit and match participants*

Who are targeted as participants for both mentors and mentees is directly related to the prior steps in the process. For mentors, what type of knowledge and skills is

needed to effectively deliver the content to the mentees? Who would benefit most from that content as mentees? Finally, considerations for matching the participants include mentee goals, shared interests, and participant preferences (Cambridge Community Services, 2013; Mentor, 2009; San Diego City College, 2011; Tuttle, 2010; United State Office of Personnel Management, 2008; <http://www.shrm.org/communities/studentprograms/pages/mentorprogram.aspx>).

Participants were recruited through mass email, on-campus flyers, and social media channels. Pairs were matched based on their selections following the introductory meeting on campus and autobiographies.

The matching for the program took place through participants' biographical selections. Each mentee and mentor was asked to write a biography using prompts presented on the registration form in Appendix D. The public biographies were posted to the mentoring site and each participant ranked the match choices in order of preference using the form in Appendix E. Participants were matched as closely as possible based on a cross of the mentor and mentee selections (Bryant et al., 2015).

#### *Step 5: Program evaluation and financing strategies*

Effective program evaluation will have an impact on available resources for financing the program. There are two potential avenues to be evaluated: the process and the outcomes. To evaluate either avenue requires similar considerations. They are what, when, and how information may be collected from various stakeholders? In addition, who would collect the information and how would it be used to improve the program (Cambridge Community Services, 2013; Mentor, 2009; San Diego City College, 2011;



Tuttle, 2010; United State Office of Personnel Management, 2008;

<http://www.shrm.org/communities/studentprograms/pages/mentorprogram.aspx>)?

Evaluation was designed to take place through biweekly surveys based on time series research. Time series research is useful for studies in which it is not feasible to have a control group from which the research treatment is withheld. A single group becomes its own control group in this method of research. Multiple treatment periods are punctuated by data collection following each treatment period. Data may be evaluated both between research units and treatments (Creswell, 2008; Leedy & Ormrod, 2001).

Survey research provides the opportunity to collect data from many sources and multiple times with minimal cost (Creswell, 2008). Using the internet to administer a survey provides some distinct advantages and disadvantages. The usual advantages of utilizing web 2.0 technologies such as speed, convenience, and cost effectiveness are present. In addition, confidentiality and security may be enhanced using technology. The unique disadvantages of using web technologies revolve around excluding participants for inadequate internet access or computer literacy. The disadvantage most relevant to this research effort is lack of interviewer involvement. Following best practices for writing survey questions minimizes this disadvantage (Rea & Parker, 2014).

Survey data collection is a conversation between the researcher and the respondent. For self-administered surveys, it is especially important that the researcher's side of the conversation must be wholly scripted to allow the respondent to answer solely on the basis of the written words. Questions were written following specific guidelines to encourage honest answers and discourage misinterpretation. Creswell (2008) states that the wording for questions should be clear, concise, and positive with a neutral stance.

Questions should avoid jargon or overly technical language and be applicable to all participants. Each question should be presented with balanced and matched responses. Each item should be a standalone complete question without unnecessary words. However, concise definitions for those words open to interpretation should be provided (Fowler, 2009; Rea & Parker, 2014).

Over the course of one semester paired groups were scheduled to be given training including expectations of being a mentor or mentee. The time series were set up to be four week periods separated by an on-campus activity. Twice during each of the four week periods, each mentor would be given information to discuss based on one of the seven powers of self-control. These formal activities were intended to help build the relationship as well as provide a base of data to determine the effectiveness of the e-mentoring activities. The discussion of other topics as decided upon by each pair would have been encouraged. The on-campus activities were designed to provide additional information about the powers and how they relate to building and maintaining relationships (Creswell, 2008; Leedy & Ormrod, 2001).

Data collection was to be performed via online surveys in the middle of each four-week mobile peer interaction and again following the on-campus mixer before the next four-week mobile peer interaction period. There was a final term survey scheduled to collect data such as final GPA standings and next term registration status.

Field experts reviewed the surveys and offered recommendations for changes. Appendix F contains a table of the experts and their qualifications. The main change was an inclusion of a question about pairing satisfaction which was noted by all three experts. Other minor changes involved grammar, spelling, or question clarity. Finally, the

questions were adapted based on the expert feedback and sent on to a small pilot group of students with children.

A pilot group of students with children tested the surveys via multiple devices including a laptop, android mobile phone, and apple iPad. They requested one tweak to the format to ensure consistency when submitting the survey via a mobile phone. Testers were unable to answer questions presented in the yes/no format on a mobile phone. These questions were switched to the multiple-choice format.

The complete survey deck is available in Appendix G. Appendix H contains a table of the relevant survey questions and variables pertaining to each of the original research questions these surveys were designed to answer.

### **The Ultimate Research Design**

Ethnology research studies the collective experience within a culture. The goal of traditional ethnology research is to describe the lives of previously unknown people through immersion and acceptance into their community (Pink & Morgan, 2013). The researcher enters the culture with an unfamiliarity that allows an unbiased and broad purpose to the resulting research. The researcher as an outsider discovers the culture by observing the routine. Traditionally this knowledge is gained through intense observation, long interviews, and document research (Wall, 2015).

Current researchers recognize a place for ethnology research conducted by a researcher with prior knowledge of the culture who seeks to understand a specific aspect of the culture. This style of ethnology research begins with a research question specific to the topic of interest. And, rather than studying a cohesive group of individuals sharing a cultural space, the focus is shifted to an assumption of shared cultural perspective

through common experiences and behaviors. Data collection becomes a more invasive view of just those parts of the participant's life that are relevant to the research question. It is not always practical to obtain first hand observation of certain behaviors nor is the intensity sustainable. Pink and Morgan (2013) suggest asking a participant to describe the use of tools serves a similar purpose to observing their use when the purpose is to place the researcher in the center of the activity. In some cases, the description of the use can place the researcher into the action in a way that simple observation could not (Higginbottom, Pillay & Boadu, 2013; Wall, 2015).

Traditional ethnology seeks to understand a new culture and defining focused ethnology has been contentious. However, Wall (2015) suggests that it is the intent of the research that gives the label and not the type of data collection. Focused ethnology is thought to be particularly well suited "for applied research projects designed to lead to an informed intervention in the world" (Pink & Morgan, 2013 p351). Furthermore, Spradley (2016) states the ethnologist should seek to determine the most urgent issues facing a population to balance the goals of ethnology with the needs of the population. With this advice in mind new research questions and a focused ethnology interview protocol were established. Experts in the field of students and parents reviewed the protocol and minor changes were made. A table of experts is available in Appendix F. A pilot group of students reviewed the interview protocol. No changes were requested. The full protocol is available in Appendix I.

The interview protocol was established based on Spradley's (2016) seminal work in *The Ethnographic Interview* updated in 2016 and additional permissions were gained from both NSU and EFSC IRB committees. The interview was designed to be delivered

via text, email, voice, or face to face as determined by the participating student parent. Participants for this portion of the study were recruited through social media, email to all students who expressed an interest in the mentoring program at previous recruiting events, and mass college wide email. A \$25 dollar Wal-Mart gift certificate was given as a thank you to all students with children who completed the ethnological survey. Potential participants were sent a summary of the project, the interview protocol, and the consent form following first contact. Once all a potential participant's questions were answered, an interview time and place was established and consent collected for those that were willing to fully participant. All interview notes were kept separate from any identifying information including the place and time of the interview. Text based interviews were transcribed into the interview notebook without identifying information and fully deleted.

Good interview participants are a crucial link to understanding a culture. The participant must be thoroughly entrenched in the cultural scene. He must have sufficient time to devote to the interviews. Spradley (2016) recommends a minimum of six one-hour interviews. However, a series of shorter interviews with multiple participants having the same knowledge may achieve the same end. Fifteen one-hour interviews were scheduled with students with children.

The interview protocol was established following the outline presented by Spradley (2016) who states the most important elements of the ethnology interview are the purpose, explanations, and questions. The explicit purpose of the interview was clearly explained at the start of each interview. Explanations of the project, recording expectations, native language, and questions were reviewed at each interview. Only after

the potential participant expressed a clear understanding of the purpose and other expectations did the interview progress to the questions.

There are multiple types of ethnology interview questions. The most important thing is get the participant talking since questions and answers must be discovered from this interaction. To begin, the ethnology interviewer may note questions people in the culture normally ask each other. Another tactic is to use reverse questions by asking the participant to formulate a question to an answer. A third tactic is to create hypothetical situations and ask the information to respond. Descriptive questions such as grand tour, mini tour, experience or example questions work best for getting the participant talking allowing the ethnography interviewer to discover additional questions throughout the interview (Spradley, 2016).

Analyzing interview data is a circular process in which the ethnographer looks for groups of symbols called domains while continuing the interviews. Members of the culture reveal the domain semantic relationships and boundaries. As these relationships were discovered a review of prior interview data was performed to seek the new relationships within the old data and incorporated into future interviews (Spradley, 2016).

## **Summary**

A peer e-mentoring program was established based on the best practices from the literature and documentation from other educational and governmental successful mentoring programs. Although the original plan was to examine the impact of the peer e-mentoring program on persistence for single mothers a lack of mentee participants sparked new questions. Focused ethnology interviews were held with students with

children to better understand how they use technology to meet their educational goals and why they made a specific program participation decision.

## Chapter 4

### Results

Students with children embody the term nontraditional student. They suffer from every challenge associated with being a nontraditional student (Spaulding et al., 2016). However, in spite of the recognized need for increased social integration a peer e-mentoring program failed to attract mentees from the population of students with children at Eastern Florida State College (EFSC) despite the availability of mentors. Thus, the goal of the resulting study was to document why students with children at EFSC have resisted peer e-mentoring.

Following in the footsteps of other mentoring programs for students such as the one at St Catherine's (Demeules & Hamer, 2013), a peer e-mentoring program was established at EFSC under the supervision of the Lab School. Permission was sought and obtained from the Internal Review Board (IRB) at both Nova Southeastern University (NSU) and EFSC. Recruiting events were held over a time span of two 16 week terms using on campus events, social media, flyers, and email blasts. Although several mentors were recruited and trained they had no-one to mentor. Two mentees were recruited during the first term but both went silent before program began. Attempts to ascertain why the mentees had ultimately decided to not participate in the program were unsuccessful. A website was established for recruiting to simplify the dissemination of information and the application process with no better results. After two terms of unsuccessful recruiting, the decision was made to study the population to determine why they were resistant to peer e-mentoring.



Traditional ethnography research requires the researcher to spend time immersed in the culture of a specific people in order to look for cultural meanings that explains behaviors and experiences (Spradley, 2016). However, current researchers are using focused ethnography research to narrow the scope of the culture to subgroups of people using a focused problem to frame the research (Higginbottom et al., 2013). This focused ethnography ultimately asked why students with children were resistant to peer e-mentoring.

### **Data Analysis**

Traditional ethnography requires the researcher to observe informants in their native cultural settings (Spradley, 2016). However, focused ethnography recognizes that this is not always possible or even desirable (Higginbottom et al., 2013). Students with children were recruited via social media, email blasts, and on campus activities. The participating parents were given the option to hold the interviews at a time, place, and technique most convenient. Ultimately 12 interviews were held using the following techniques: face to face, email, short message service (SMS) text, and voice calls. The two students who requested face to face interviews were met at a place of employment and at a local coffee shop.

Handwritten notes were recorded in a dedicated research notebook from face to face and voice call interviews. Text and emails were printed and all identifying information removed from the printouts before they were placed in the research notebook. The interview responses were studied over several days.

Answers were then coded by looking for key words or ideas used by a majority of the students with children. These domain cover terms were recorded onto a chart and

hash marks used to track the number of participants who referenced that key idea. The interviews tended to be more like conversations and occasionally took twists that revealed an answer outside of the answer's normal category, these were recorded into the appropriate place on the chart presented in Appendix J.

## **Findings**

What is going on here is the fundamental question in any ethnology. In a focused ethnology research that question takes a sharper meaning as the research is aimed at a specific action or non-action being undertaken by the population. Through 32 weeks of recruiting not one person said a peer e-mentoring program is a terrible idea and it will never work. In fact, every person said “this is so needed” or “awesome, how can I help?”. However, no mentees were recruited. This led to the fundamental question what is going on with students with children being resistant to peer e-mentoring? The answer to this question was found through in depth and circular analysis of the interview responses looking for domains, their symbolic relationships, and boundaries (Higginbottom et al., 2013; Spradley, 2016).

Traditional ethnology begins by observing the population and follows with research questions after a thorough understanding of the people is obtained. However, focused ethnology often begins with identified research questions to narrow the focus of the research. Focused ethnology also indicates that a researcher can gain sufficient understanding of the population by spending time studying and transcribing interview results (Higginbottom et al., 2013; Spradley, 2016). Using Talip, Narayan, and Edwards' (2016) steps as a guide to coding the research notes the following steps were undertaken.

Step 1: The interview notes were studied over multiple days looking for emergent categories.

Step 2: An initial list of cover terms were identified and noted.

Step 3: The initial list of domain cover terms were compared and contrasted to each other and back to the interview data for possible groups or duplicates.

Step 4: Steps 1-3 were repeated until no new categories were found.

Step 5: The resulting domains identified by their cover terms were laid out into a grid and the interview notes were reviewed again looking for the specific terms associated with each domain. Also noted were the number of participants that alluded to a specific term to aid in understanding how pervasive the particular idea or activity was entrenched in the culture.

The domain cover terms that emerged were quite predictably related to the participants return to higher education and how the use of technology contributes to their success in the multiple roles they must negotiate. The domain cover terms were ultimately identified as demographics, technology use, problem solving, and participation.

### *Demographics*

Demographics were recorded only in as much as the initial questions of the interview were designed to put the parent at ease and get them talking. In addition, some of the demographics were gleaned when parents offered specific examples during the course of the interview. A total of 12 interviews were conducted, six voice calls, three via email, two face to face, and one SMS text. There were ten mothers and two fathers.

One parent was a recent graduate and the other eleven ranged from two brand new students this term to four years with two expecting to graduate this year. Degrees were being sought in the fields of business administration, communications, computer science, education, legal administration, medical, and theology.

Six of the parents work full-time out of the house and three reported working part-time. A wide range of jobs were being worked by the participants. They reported working in areas such as business, construction, dispatch, medical, sales, and education.

Reasons for returning to complete formal education can be summed up as improving their life from different angles. Four parents specifically mentioned security for their children and one explicitly stated “future security for my daughter”. And another stated he “felt inadequate after the birth of his child”. One parent summed it up as for “financial and future possibilities”.

*Technology Use: What Devices, Programs, and Apps do Student with Children Use?*

This group of parents were heavily invested in their technology. All reported at least having a laptop and a smartphone dedicated to the individual’s use. Nine reported having internet available at home and eight had some level of data available on their smartphone. Four parents reported the use of a tablet in addition to a home computer and smartphone. In addition to using technology to organize personal items their family members were interconnected. Family units used connected apps for everything from grocery lists to scheduling.

Only two parents reported using their cell phone rarely. Most reported using their smartphones to text or email other students and professors for group projects, meetups, and other information as needed. They have also used smartphones to check campus

email, class notifications, and access e-books as well as for home organization and random internet searches.

Three parents specifically mentioned using their smart phone to reach out for help. Parents were using their cell phones to schedule everything from last minute rides to activities to emergency day care for their children. They kept in touch with other family members by calling or texting in odd moments between other activities. In the words of one parent “my phone is my life line”.

*Problem Solving: How do Students with Children Currently Solve Problems and Who do They Turn to for Assistance When Needed?*

The challenges students with children face were compounded by the introduction of children in the mix. Highlighted challenges included everything from daycare to finding balance for their competing roles. These parents depended on routine, planning, and self-discipline to get everything done.

When asked how she manages to get everything done one parent said you just “breathe and then do one thing, then the next”. This statement seems to sum up the overwhelming attitude from all the parents who mentioned strategies like routine, prioritizing, and self-discipline. Planning ahead was reported as a strategy by seven of the twelve parents specifically saying they are “sacrificing current for the future. Another parent stated “I noticed successful people plan ahead”.

For many of these parents attending classes and doing coursework is not the problem. “School is the easy part” one parent told me. Their challenges are daycare, problems with ex-significant others, and time. Several mentioned the bureaucracy of the college such as busy advisors, changing guidelines, inconsistent policies, and just general

red tape. Finding balance is a constant challenge as stated by one parent “I’m trying to find ways to balance them all because everyday something new pops up”.

Half of the parents were relying on family members to provide support. Other parents looked to professors, staff, and mentors to provide support as needed and they know they have to ask for support to receive it. “In order to succeed you have to have open communications” said one parent.

*Participation: Why has the Peer Mentoring for Parents Program Attracted Mentors but not Mentees?*

Two of the parents were participants in the Peer Mentoring for Parents program as mentors. Only one other parent reported having heard of the program prior to the interview advertisement. She thought she had seen a flyer on a school bulletin board but promptly forgot about it in the flurry of everyday tasks.

Parents reported getting information from multiple sources but primarily from the Internet. Most claimed to check their campus email at least once a week. Instructors, school staff, family, and the EFSC website round out their information needs.

Mentors decided to participate because they felt like they had something to offer those students with children who were coming behind them. One parent spoke of the mentors she had relied upon to help her. And another stated “I know what it feels like to worry constantly about what you want to do and what you have to do. It is a struggle sometimes and very stressful. I have found ways that help and I feel like I could help by sharing my findings with others who need help or just someone to talk to.” However, both of these mentors spoke of the importance of trust in the mentoring relationship and how difficult it would be to build that trust without face to face time. They felt

eventually the relationship could become more digital but writing your deepest fears and sending them out over the cloud would always remain risky.

These parents are not spending time on campus and this is impacting their decision to participate. Most reported only coming on-campus to attend classes. One parent told me that he “goes to on-campus events only if they are on days he is already there”. And, another said “can’t attend club meetings they are either inconvenient or there is no daycare”. The mentors who spoke with me were making time to participate because they realize the importance of connecting.

Students with children have felt the loss of connection with the school. Parents expressed their frustration trying to connect from the perspective of being a student with children. One told me he “finds it hard to connect to school because it revolves around traditional students”. And another stated she finds it “very difficult in classes with younger people”. The general feeling of these students with children can be summed up as feeling “very isolated and who would love to connect but it would be one more obligation”.

### **Summary of results**

Students with children comprise a wide range of non-traditional students. Ten mothers and two fathers were interviewed. Half of the participants reported working fulltime and another third part-time. They all expressed the same reason for returning to higher education: to improve the lives of their families.

The students with children who were interviewed all reported having at a minimum a smart phone and a laptop. These students use their cell phones to integrate

their various roles and solve problems as they arise. They connect with their immediate family using apps designed to sync across users.

These students with children report using routine and planning as their number one defense against the challenges associated with being a student parent. They also try to have a plan B for any possible contingencies they can think of. They turn to family members and look for teachers known to be sympathetic for those times when even plan B isn't enough planning.

The students with children who were interviewed were well connected and used multiple devices to obtain their goals. Connectivity was a necessity to these students who use their smartphones for everything from grocery lists to reviewing e-books. However, a lack of time to connect face to face has left them feeling isolated from the school and their classmates.



## Chapter 5

### Conclusions, Implications, Recommendations, and Summary

The ultimate goal of this research was to establish a peer e-mentoring program and study its effect on the retention of students with children. A partnership was established between the existing Lab School at Eastern Florida State College (EFSC) and the researcher. The Lab School offers a program for both parents and their children following Becky Bailey's teachings of conscious discipline. The cornerstone of Bailey's program is self-discipline for the adults. Incorporating Chickering's vectors of development with Bailey's hands on program provided the backdrop for the opening communication scripts (Bailey, 2000; Chickering & Reisser, 1993).

Following in the footsteps of other programs such as the one established at St Catherine's for single mother students (Demeules & Hamer, 2013), the e-mentoring program was established. The program provided training to the mentors as well as gave them opening scripts designed to increase self-esteem and improve communication skills in their mentees. Internal review board (IRB) permission was sought and obtained from both Nova Southeastern University (NSU) and EFSC before rolling out the program in February 2016.

Recruitment activities focused on social media, email blasts, and on-campus activities that were carried out over two 16-week semesters should have been successful. Mentors were recruited and trained. All students with children were invited to join the e-mentoring program. The research was setup to answer questions about retention and how the mentoring activities were translating to a text based format for single mother students only. The activities involved several communication scripts to be delivered by the

mentor with follow up suggestions. In addition, there were monthly on-campus activities planned. Each two-week segment of activities was to be followed by a short survey designed to take advantage of time series research techniques. However, in the 32 weeks of focused recruitment only two mentees completed the application for inclusion in the program and they both stopped communicating before the program could get underway.

The question of why no mentees were successfully recruited became the focus of the research. Following the advice of Spradley (2016) and Higginbottom et al. (2013) an interview protocol was designed using focused ethnography techniques. IRB permission was sought and obtained from both NSU and EFSC for the inclusion of an interview and a third time to include all students with children. Participants were again recruited via social media, email blasts, and on-campus activities. A total of 15 interviews were scheduled and 12 were completed. Interviews were completed via voice calls, face to face, SMS text, and email.

## **Conclusions**

The first research question, mentoring program best practices, was answered using information gleaned from websites of educational and governmental agencies who have successful mentoring programs. Questions two through five were answered using interview responses from students with children.

The short answer to the final four questions is that these students with children are motivated to use technology by whatever means will take them to the end. They don't separate their lives into individual roles as student and parent but use technology to integrate and balance their various roles.

*What are the Current Accepted Principles for E-Mentoring Support Programs?*

This question was answered primarily through program standards from other educational and governmental institutions and supported in the academic literature. These standards were found through literature posted on various websites (Cambridge Community Services, 2013; San Diego City College, 2011; Tuttle, 2010; United State Office of Personnel Management, 2008) presented a customizable step by step procedure for establishing the program.

Step 1: Establish goals. The goal of this program was to provide students with children with psychosocial support without further taxing the demands on their time.

Step 2: Establish program content, mentor strategies, and mentor support.

Program content was developed as talking points to increase self-control based on Bailey's (2000) conscious discipline program integrated with Chickering & Reisser's (1993) vectors of development. Mentor training was self-directed delivered via online presentation. Mentor and mentee support was established through the Lab School professionals.

Step 3: Establish the expected duration of the relationship and contact frequency.

Formal scripts were designed to be delivered every two weeks with four monthly voluntary on-campus activities. The length of the program was designed for 16 weeks in step with a semester at EFSC.

Step 4: Recruit and match participants. Participants were asked to write a public biography highlighting important characteristics and experiences to be used by the

opposite participant in selecting a match. These biographies were uploaded to the mentoring sites and participants used a ranking form to select match orders.

Step 5: Program evaluation and financing strategies. Biweekly surveys were created using time series research to evaluate the program effectiveness on retention, delivery style of the content, and the participant's opinion of the program.

#### *What Devices, Programs, and Apps do Student with Children Use?*

Students with children were dependent on their technology to integrate their various life roles such as parent, student, employee, and all the other roles required of today's adults. They were using technology for list making, scheduling, rescheduling, and keeping all the family members moving in the same direction.

The students with children all reported having a minimum of a smart phone and a laptop dedicated to them alone. Many also had additional equipment such as tablets and computers in the household and available to all family members. The majority had internet available in their homes as well as a generous data plan for on the go connectivity. Family members also had their own connected devices and were expected to use apps that integrate schedules and to do lists.

#### *How do Student with Children Currently Solve Problems?*

The students with children who were interviewed take each day as it comes and solve problems as they present themselves using whatever tools are to hand. Their main technique was schedule consistency. The majority of them planned ahead as their number one defense. When a problem threatened to interrupt the schedule, they dealt with it using an established plan B. They used technology as needed for tasks such as

getting advice and scheduling daycare among a variety of other everyday tasks that require attention. They reported always being on the lookout for new ways to solve potential problems.

*To Whom do the Students with Children Turn to for Assistance When Needed?*

Students with children turn most often to family members, including extended family, for help. One strategy mentioned was to trade or share chores with other family members. Family members provided daycare for sick children, rides for activities, and advice.

They looked for classes taught by professors who are known to go above and beyond for their students. This was considered a critical strategy because if they needed to reschedule due dates or tests there must be open communication. More rarely mentioned were mentors and other college staff.

*Why Has the Peer Mentoring for Parents Program Attracted Mentors but not Mentees?*

Many of the parents stated that they had not heard of the program. Only one that had not signed up to be a mentor stated having seen a flyer on a bulletin board but didn't follow through for further information. None had seen the email blasts though most stated they checked campus email at least once a week. There was an overwhelming consensus that on-campus time was limited to class requirements.

New students with children do not attend club rush information sessions or care fairs. They do not wander the hallways reading bulletin boards. Every minute they are on campus is another minute they were not with their children or at work. They come on campus to attend class, and then they leave.

However, students with children who have come through the stressful *how am I possibly going to do all this phase* realize that they have information to share. Also, they are beginning to look towards either moving into a university setting or job hunting and are looking for volunteer time to add to the application process. They realize that getting the degree is only one part of the educational process and are willing to share those experiences with their peers.

### **Implications**

When establishing programs for nontraditional students the institution must first establish the needs of their individual population. Even within groups of non-traditional students there is little agreement on what programs work (Arnold & Hickman, 2012; Goldrick-Rab et al., 2007). For example, parents who have successfully navigated the educational system thought a peer e-mentoring would have been very helpful however, the parents currently navigating couldn't see how there is possibly time for another commitment. Even after explaining the program during the interviews with students with children there was very little enthusiasm for one on one e-mentoring although most expressed the need to constantly find ways to cope with changing requirements of balancing the multiple and often competing roles of parent, family, student, and work.

The peer e-mentoring program was established following the best practices both in education and industry but the students were never asked. The failed beginnings of this project back up the findings that implementing programs for nontraditional students should start with a needs analysis based not only in the best practices of the literature but by surveying the students that the program is intended to help (Arnold & Hickman, 2012; Goldrick-Rab et al., 2007).

The students with children interviewed were adept at using technology to integrate the various roles of their lives. Many expressed that they use technology to search for and implement solutions. However, they expressed confidentiality concerns when asked about using technology to share their own problems and solutions with other parents.

What is the answer to the ultimate question - what is going on with students with children being resistant to peer e-mentoring? Students with children expressed how busy they are. They want to connect but can't see how to fit another obligation into already overburdened schedules. Although technology could potentially help ease the way, these students with children were already heavily invested in technology and they were also aware of the pitfalls. This knowledge makes them hesitant to put their deepest concerns in writing to a virtual stranger.

### **Recommendations**

Developing solutions for non-traditional students must take a bottom up approach. The culture of non-traditional students varies widely among different groups and even within groups across different institutions. Any potential solution should be fully vetted through the students it is intended to help.

More research into peer e-mentoring and how to connect students while ensuring a level of confidentiality needs to be done. Students with children have been burned by putting too much in writing when it was used against them. They expressed this as a concern when discussing the proposed program.

There should be further research into how educational institutions can leverage the technology being used by students with children to help these marginalized students

feel more connected with the college. Based on the interview responses, the students feel isolated and would take measures to combat the isolation but only if they can fit it into an already busy schedule.

Further research into how technology is affecting nontraditional student role strain could help educational institutions to incorporate technological solutions designed to reduce role strain. Students are using technology to integrate their different roles. However, each student must use a trial and error approach eventually settling on multiple mobile applications to integrate life.

## **Summary**

The original goal was to establish a peer e-mentoring program for students with children and study the effect on persistence. However, 32 weeks of recruitment provided mentors and others to help with the program but no one for them to help. Everyone who encountered the program thought it was a great idea and it was expected to be successful. But, in the 32 weeks only two students with children signed up to be mentees and they stopped communicating before the first mentor/mentee communication was established. The reason why they stopped communicating was never known.

To understand what was going on focused ethnology was used to frame a complimentary study. An ethnology interview protocol was established. New IRB permissions were sought and received. Twelve interviews were held with ten mothers and two fathers. What was going on? Students with children have very strict schedules. Although they would like to feel more connected to the college they can't see how taking on another commitment could possibly help. Additionally, most had not even heard of



the program. Students with children are on campus for a very focused period of time. They attend the required classes and then they leave.

Students with children are well connected with technology and all the interview participants reported having a minimum of a laptop and a smartphone. They use various apps such as google docs and out of milk to stay organized and connected with children, school, work, and home. The various roles being performed by students with children are integrated by technology. Despite being cautious about confidentiality they use technology to its full advantage. Educational institutions would be wise to woo this population with technological incentives that allow education to be seamlessly integrated into the life of the student with children.

## Appendix A

### Internal Review Board Approvals

MEMORANDUM

To: **Brenda Varner Varner, Computing technology in education  
College of Engineering and Computing**

From: **Ling Wang, Ph.D.,  
Center Representative, Institutional Review Board**

Date: **January 12, 2016**

Re: **IRB #: 2016-4; Title, "Supporting Education for Single Mothers through Mobile  
Technology"**

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I have reviewed the above-referenced research protocol at the center level. Based on the information provided, I have determined that this study is exempt from further IRB review under 45 CFR 46.101(b) (Exempt Category 1). You may proceed with your study as described to the IRB. As principal investigator, you must adhere to the following requirements:

- 1) **CONSENT:** If recruitment procedures include consent forms, they must be obtained in such a manner that they are clearly understood by the subjects and the process affords subjects the opportunity to ask questions, obtain detailed answers from those directly involved in the research, and have sufficient time to consider their participation after they have been provided this information. The subjects must be given a copy of the signed consent document, and a copy must be placed in a secure file separate from de-identified participant information. Record of informed consent must be retained for a minimum of three years from the conclusion of the study.
- 2) **ADVERSE EVENTS/UNANTICIPATED PROBLEMS:** The principal investigator is required to notify the IRB chair and me (954-262-5369 and Ling Wang, Ph.D., respectively) of any adverse reactions or unanticipated events that may develop as a result of this study. Reactions or events may include, but are not limited to, injury, depression as a result of participation in the study, life-threatening situation, death, or loss of confidentiality/anonymity of subject. Approval may be withdrawn if the problem is serious.
- 3) **AMENDMENTS:** Any changes in the study (e.g., procedures, number or types of subjects, consent forms, investigators, etc.) must be approved by the IRB prior to implementation. Please be advised that changes in a study may require further review depending on the nature of the change. Please contact me with any questions regarding amendments or changes to your study.

The NSU IRB is in compliance with the requirements for the protection of human subjects prescribed in Part 46 of Title 45 of the Code of Federal Regulations (45 CFR 46) revised June 18, 1991.

CC: **Gertrude Abramson, Ed.D.**



Eastern Florida State College  
Institutional Review Board  
1519 Clearlake Rd. Cocoa, FL 32922  
[www.easternflorida.edu](http://www.easternflorida.edu)

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**Notice of Expedited Review Approval**

From: Eastern Florida State College Institutional Review Board  
To: Brenda Varner  
Date: January 20, 2016  
IRB Number: 16-001  
Study Title: Supporting education for single mothers through mobile technology.

Dear Brenda:

Your research proposal was reviewed and approved by the IRB Chairperson per federal regulations, 45 CFR 46.110(b)(1) [Expedited Review] and 46.111 (1-7). Your proposed study has been determined to involve no more than minimal risk for human subjects, you have documented an appropriate consent process, and have ensured the EFSC IRB that collected data will be held confidential.

As the principal investigator, it is your responsibility to ensure the study is conducted as approved by the IRB. Any procedural changes or amendments must be reported to the IRB, and no changes may be made without IRB approval except to eliminate apparent immediate hazards.

It is the condition of this approval that you report unanticipated adverse events experienced by the participants that increase subjects' level of risk in participation. Whether or not these events are directly related to the research, please report them promptly to the IRB.

This submission is approved for one year from the above date. When the research is complete, or if data collection may continue past this date, a request for Continuing Review must be made. The termination of research and continuing review forms are located on the EFSC IRB forms webpage (<http://www.easternflorida.edu/administration-departments/irb/forms.cfm>).

Congratulations on your progress toward your degree and good luck in completing your research.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Quathamer".

Mark Quathamer, Ed.D.  
Chair, Institutional Review Board  
Eastern Florida State College

11/3/2016

Exemption of Study Confirmed Following Amendment - Brenda Varner

## Exemption of Study Confirmed Following Amendment

irb@nova.edu

Thu 11/3/2016 12:02 PM

To: Gertrude Abramson <abramson@nova.edu>; Ling Wang <lingwang@nova.edu>; Brenda Varner <bv100@nova.edu>;

Dear Varner, Brenda Varner Computing technology in education,

The IRB Office has reviewed your Amendment to your study, Supporting Education for Single Mothers through Mobile Technology, and determined that the study remains EXEMPT.

You may continue work on the study and immediately incorporate the approved Amendment. Please let the IRB Office know if you require a formal memorandum in this regard.

Thank you for your cooperation,  
Institutional Review Board  
Nova Southeastern University  
954-262-5369

3/31/2017

RE: Addendum to IRB number 16 - Brenda Varner

## RE: Addendum to IRB number 16

Quathamer, Dr. Mark <quathamerm@easternflorida.edu>

Tue 11/15/2016 4:04 PM

To: Brenda Varner <bv100@nova.edu>;

Hello Brenda,

Your extension and modifications have been recorded and approved.

Good luck in completing your research.

**Mark Quathamer, Ed.D.**

Chair, Institutional Review Board  
Eastern Florida State College  
PH: 321-433-5364  
[www.easternflorida.edu](http://www.easternflorida.edu)



**Please Note:** Due to Florida's very broad public records law, most written communications to or from College employees regarding College business are public records, available to the public and media upon request. Therefore, this email communication may be subject to public disclosure.

3/31/2017

Exemption of Study Confirmed Following Amendment - Brenda Varner

## Exemption of Study Confirmed Following Amendment

irb@nova.edu

Tue 11/22/2016 11:24 AM

To: Gertrude Abramson <abramson@nova.edu>; Brenda Varner <bv100@nova.edu>; Ling Wang <lingwang@nova.edu>;

Dear Varner, Brenda Varner Computing technology in education,

The IRB Office has reviewed your Amendment to your study, Supporting Education for Single Mothers through Mobile Technology, and determined that the study remains EXEMPT.

You may continue work on the study and immediately incorporate the approved Amendment.

Please let the IRB Office know if you require a formal memorandum in this regard.

Thank you for your cooperation,

Institutional Review Board  
Nova Southeastern University  
954-262-5369

3/31/2017

RE: IRB Amendment request 16-001 - Brenda Varner

## RE: IRB Amendment request 16-001

Quathamer, Dr. Mark <quathamerm@easternflorida.edu>

Tue 1/3/2017 3:11 PM

To: Brenda Varner <bv100@nova.edu>;

Hi Brenda, we have updated the information for your research. thank you for the update.

**Mark Quathamer**

Research Coordinator  
Eastern Florida State College

## Appendix B

Communication scripts to get the conversation going

### *Communication One*

*Justification:* According to Chickering and Reisser (1993) developing Competence involves developing skills in three distinct areas: intellectual, physical (sports or art), and interpersonal. The intellectual and physical areas are developed in other areas of the educational environment such as the classroom and through physical education requirements. However the area of interpersonal development is often lacking in higher education programs (Maelah, Aman, Mohamed, & Ramli, 2012). The power of attention uses the skill of assertiveness to engage respect for each other (Bailey, 2000).

*Script:* Assertive communication gives respect to all parties in the conversation by phrasing communications based in facts rather than judgements. The power of attention takes this a step further incorporating the idea that you get more of what you focus on. For example, if you say I will not eat chocolate, your body immediately responds by wanting chocolate. Consciously redirect your thoughts to phrase what you want or like as opposed to what you don't want. I will eat more vegetables now you are thinking about vegetables. Communicating with assertion requires practice, how would you respond if someone in your study group is consistently late?

*Follow up:* What other stressful situations have prompted you to respond in anger and how could you rephrase your response? [Offer a personal example]

### *Communication Two:*

*Justification:* Managing emotions is Chickering's second vector. He states that students bring all sorts of emotional baggage to the classroom without understanding the source of the feelings or how to appropriately direct them (Chickering & Reisser, 1993).



The power of perception uses the skill of composure to retake your power by accepting and owning your emotions (Bailey, 2000).

*Script:* Only you can choose how to react to any given situation. A statement that begins with "Don't make me..." or "She made me..." gives away your power. Keep control by owning your emotions. Take notice of how your thoughts affect your emotions, when anger strikes ask yourself who has control. Did you give away your power or are you ready to own your emotions? Examine past situations in which gave away your power. Identify triggers by stopping to breathe before reacting. What are your triggers? [Offer a personal example]

*Follow up:* How might you change a past interaction to keep your power? [Offer a personal example]

*Communication Three:*

*Justification:* Autonomy indicates an individual has a sense of their choices and the impact those choices have on their life. Moving past autonomy towards interdependence indicates a knowledge of the effect those choices have on the world around an individual (Chickering & Reisser, 1993). The power of free will uses choices to build self-esteem. Through the value of commitment, individuals own their choices focusing on solutions not problems (Bailey, 2000).

*Script:* Each individual is free to choose and therefore must accept the consequences of each choice. Statements that begin with "I should..." give away your choice. The statement "I should study" implies there is another person making you study. Perhaps you really should have done the laundry and now you are angry because you have no clean clothes. This is not your fault because someone else made you study

instead of doing the laundry. Now you have given away control of your emotions. The statement "I could study" indicates a personal choice and when you make a choice you own the consequences and the resulting emotions. Don't assume not doing an I should is going to end your life. [Offer a personal example] Is there any specific area in your life that you have given away your free will?

*Follow up:* Change a statement of 'I should' to 'I could' to take back your freedom of choice. Come up with a plan to identify two other positive choices. [Offer a personal example]

#### *Communication Four:*

*Justification:* Developing mature interpersonal relationships requires the capacity for tolerance and intimacy. Increasing intimacy involves creating a balance of time spent alone, with friends, family, and partner (Chickering & Reisser, 1993). The power of unity uses encouragement to teach interdependence (Bailey, 2000).

*Script:* Developing a mature interpersonal relationship requires a connection to be made between 2 or more people. Striving to become singularly special builds pedestals of judgment as each person strives to rise above the group. A cohesive group must stand as equals with each person relinquishing the need to be special. When dealing with another person in a stressful situation examine your motives for the interaction. Do you want to set yourself above the other person at the risk of judging yourself inadequate or do you want to connect with that person. Try noticing without judging to reopen communication lines. Describe a recent interaction with another person without judging the events, at the end validate their feelings and wish the person well. [Offer a personal example]

*Follow up:* Follow up: Has there been a recent interaction in which you responded with judgement? How do you think you could repair that relationship? [Offer a personal example]

*Communication Five:*

*Justification:* Chickering & Reisser (1993) conceptualize the development of identity requires a series of challenges and responses. These experiences reveal interests, skills, and attitudes. A person with a firm sense of identity will share their best talents with society. The power of love uses the skill of positive intent to teach cooperation. The power of love gives us permission to forgive even ourselves when we make mistakes responding to a challenge (Bailey, 2000).

*Script:* Developing identity often involves internalizing the perceived norms of society, "what you offer to others, you experience within yourself"(102). Everyone makes mistakes, if you assume the mistake is an honest mishap that began with positive intent, you will remain calm and peaceful inside. If you assume the mistake had negative intent then you will respond in anger. Spend some time noticing how you respond to the little things in life like a driver pulling out in front of you or forgetting to run an errand, rephrase your immediate negative response - I am so stupid, I forgot to go to the bank - to a positive response – I wish you well. I was hurrying home to have time to go to the park before making dinner, I will stop at the bank tomorrow. [Offer a personal example]

Describe a recent situation in which you responded with anger.

*Follow up:* Rephrase your response to be positive. Make a plan to be positive. [Rephrase your personal example, what is your plan?]

## *Communication Six*

*Justification:* Developing purpose means intentionally assessing interests and attitudes to clarify goals and make a commitment to persist despite obstacles (Chickering & Reisser, 1993). The power of acceptance uses empathy to move the energy away from the emotional allowing problem solving to move past the obstacle (Bailey, 2000).

*Script:* It has become chic to “be present in the moment” however when you harshly judge the moment you negate the presence of all those who are participating in the moment. You can rail against the rightness of what is happening and get caught in the fallout requiring you to react. Or you can choose to accept what is happening and act proactively to move out of the way. Only by accepting the moment as it is and owning the responsibility for yourself can you choose to change it. Without ownership you don't have the power to make the change. Own your week, leave behind the coulda, woulda, shoulda's and practice being in the moment. Practice being in the moment by describing things as you see them without making judgments about them. Sometimes you can't be both right and in the relationship. Describe a recent stressful incident and how you responded [Offer a personal example].

*Follow up:* How would your response change using the power of acceptance, you don't have to make them agree with you? [Restate your personal example]

## Appendix C

### Participant orientation slides

## Parent student peer mentoring program

*Promoting persistence through  
technological connections*

## What is a peer mentor?

A Peer mentor is:

- Friend
- Advisor
- Advocate
- Coach
- Guide
- Listener

A peer mentor is not:

- Conflict intermediary
- Social worker
- Savior
- Therapist
- Expert
- Teacher

## What is mobile peer mentoring?

- An innovative model for mentoring, connecting student mothers to exchange support and information
- Communication between mentor and mentee is through text messages with occasional face-to-face meetings.
- The goal of the mobile peer mentoring program is to help students build connections and encourage persistence in higher education.

## Benefits for Mentors

- Build a legacy as a leader
- Friendship
- Gain Leadership skills
- Sense of contribution

## E-Mentoring Team

- Mentor: A volunteer who wishes to share friendship and knowledge as a student mother.
- Mentee: A student mother who would like friendly support and guidance through her new role as a student.
- Lab school coordinator: Oversees training and coordinates resources for issues outside the realm of the mentor.
- Research coordinator: Provides and collects resources related to program organization and evaluation.

## Mentor Do's

- Be a friend
- Be a positive role model
- Be non-judgmental
- Create an open space for the mentee to explore feelings and experiences
- Help mentees explore consequences – positive and negative
- Practice active listening

## Mentors are not

- A social worker, therapist or psychologist: Refer serious issues to the Lab School staff
- A savior: Your role is to help direct the mentee to find their own path to problem resolution.
- An expert: It is ok to request time to find the answer.

## Benefits for Mentees

- Friendship through shared experiences
- Build motivation for academic learning and graduation
- Improve self-esteem
- Connect to positive role models in higher education
- Obtain a source of information
- Access to advisory resources
- Obtain a sounding board

## Roles of Mentors

- Provide encouragement, motivation, information, and direction
- Act as a role model and advisory figure
- Facilitate exploration, learning, and decision-making
- Return text messages promptly
- Notify the program coordinator if you don't receive prompt return messages from the mentee.
- Address issues of confidentiality, boundaries, child safety, academic progress, or the mentor/mentee relationship with the Lab School coordinator

## Mentee Requirements

- Freshman status
- Interest in sharing friendship and resources
- Commitment for one semester
- Commit to up to one hour weekly of text based mentoring
- Have a mobile phone contract that enables texting.
- Be able to accept constructive feedback
- Be open to stepping out of your comfort zone

## Mentor Requirements

- Be at least a sophomore with a GPA of at least 3.0
- Commitment for one semester
- Commit up to one hour per week of text based mentoring.
- Have a mobile phone contract that enables texting.
- Interest in sharing friendship and resources

## Shared Responsibilities

- Keep confidences
- Communicate weekly
- Share successes and failures
- Share potential resources
- Three face to face group meetings per semester
- Willingness to adhere to program goals and boundaries

## Program Curriculum

- Focuses on skills for relationship building
- Provides a weekly topic and framework for discussion
- Inspires dialogue between mentor and mentee on a specific topic
- Provides information and resources for mentors and mentees

## Resources

## Appendix D

### Registration form



# Parent-Student Peer Mentoring Program Registration

1. **Name**

.....

2. **Email**

.....

3. **Phone number**

.....

4. **Major**

.....

5. **Class Standing**

*Mark only one oval.*

Freshman

Sophomore

Junior

Senior

Other: .....

6. **Current GPA (Enter NA for incoming freshmen)**

.....

7. **I am interested in being a**

*Mark only one oval.*

Mentor (must be at least a sophomore with a minimum GPA of 3.0)

Mentee

8. **What attracted you to the mentoring program?**

-----  
-----  
-----  
-----  
-----

9. **Single mothers are invited to participate in a study to examine the impact of the mentoring program on persistence. If you are a single mother would you like more information about allowing the use of your anonymous surveys in an academic research project?**

Participation is voluntary and does not impact your right to participate in the mentoring program. In addition, you may choose to end your participation in the study at any time while continuing in the mentoring program without fault.

*Mark only one oval.*

- Yes
- No or I am not a single mother

10. **Introduce yourself**

What would you tell a new acquaintance about yourself? This should highlight those areas you think are most important to a potential match. Some ideas to get you started: What are you studying EFSC? Are you currently working?; What type of work do you usually do?; Organization or club affiliations; Personal motto; Favorite personal achievement; Hobbies; Family; Favorite book, movie, website etc. This short introduction will be shared with the group to assist in matching pairs.

-----  
-----  
-----  
-----  
-----

## Appendix E

### Match selection forms

## Mentor Match Ranks

1. Enter your name

-----


2. Rank each name by selecting the radio button

Rank each potential mentee in order of preference, with number 1 being the first choice and [enter number of potential mentees] being your last choice.

*Mark only one oval per row.*

	1	2	3
Mentee 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mentee 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mentee 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

---

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## Mentee Match Ranks

Rank each mentor in the order of your preference to be matched with 1 representing your top choice.

1. Enter your name:

-----

2. Mentor Name

Rank each potential mentor in order of preference, with number 1 being the first choice and [enter number of potential mentors] being your last choice.

*Mark only one oval per row.*

	1	2	3
Mentor 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mentor 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mentor 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

---

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## Appendix F

### Table of Experts

<b>Subject Experts</b>		
<b>Name</b>	<b>Company</b>	<b>Qualifications</b>
Janet McCullough, MS, MFT	Program Director, Eastern Florida State College Lab School	Educator for Lab School Parent Education: 20 years  Experience working with families and children as an Outreach Specialist and Family Therapist for Circles of Care and Devereux
Cheryl Serafini-Cook	Director, EFSC Lab School	Program Manager, EFSC Lab School: 3 years  Program Manager/Therapist, Circles of Care Family On-Site Therapy: 4 years  Experience working in education and parent education in addition to those listed above: 13 years
Regina Ann Kardash, ESQ.	Associate Attorney, Trask, Metz & Daigneault, LLP	Deposition and trial experience in the examination of persons particularly as related to family law  Guardian Ad Litem's Sixth Judicial Circuit Road to Independence program  Worked with multiple clients with parenting coordinators and parenting evaluations when it comes to time management and priorities for single family households

<p>Sherrie Sacharow</p>	<p>Associate Professor, Broward College</p>	<p>Ph.D. Candidate, ABD in Curriculum, Culture, and Educational Inquiry.</p> <p>Instructor to college level English learners. Teaching reading, writing, listening and speaking professional/academic language skills.</p> <p>Coordinator of discipline, work with faculty and publishers on textbook choices or adoptions. Coordinate discipline syllabi and execution of course necessities according to faculty policy.</p> <p>Faculty Senator, Chairman of Academic Freedom and Tenure Committee.</p>
-------------------------	---	---

## Appendix G

### Bi-weekly surveys



# Interaction Survey For the Period of February 13 - February 26, 2016

1. What is your secret code name?

.....

2. Are you a mentor or mentee?

*Check all that apply.*

Mentor

Mentee

3. How many text messages did you send to your mentoring partner during the two week period of 02/13/2016 -02/26/16?

.....

4. How many text messages did you receive from your mentoring partner during the two week period of 02/13/2016 -02/26/16?

.....

5. Did your team communicate any other way during the two week of period of 02/13/2016 - 02/26/16? Select all that apply

*Check all that apply.*

Landline phone call

Mobile phone voice call

Video call

Email

In person

Instant message

Other: .....

6. **Did your mentoring team use the communication script?**

*Mark only one oval.*

- Yes  
 No, skip the next question

7. **How prepared did you feel to communicate assertively?**

*Mark only one oval.*

	1	2	3	4	5	6	7	
Unprepared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very prepared

8. **How prepared did you feel to respond to interpersonal interactions without judgement?**

*Mark only one oval.*

	1	2	3	4	5	6	7	
Not at all satisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very satisfied

9. **Do you know what your average grade has been during the two week period of 02/13/2016 -02/26/16?**

*Check all that apply.*

- A  
 B  
 C |  
 D  
 F  
 Unknown

10. **How likely are you to graduate from this college?**

*Mark only one oval.*

	1	2	3	4	5	6	7	
Not likely at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very likely

11. **Are you voluntarily participating in the single mother research project?**

*Mark only one oval.*

Yes

No or I am not a single parent

---

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# Interaction Survey for the Period of February 27 - March 10, 2016

1. What is your secret code name?

-----

2. I am a mentor or mentee?

*Check all that apply.*

Mentor

Mentee

3. How many text messages did you send to your mentoring partner during the two week period of 02/27/16 - 03/10/16?

-----

4. How many text messages did you receive from your mentoring partner during the two week period of 02/27/16 - 03/10/16?

-----

5. Did your team communicate any other way during the two week of period of 02/27/16 - 03/10/16? Select all that apply

*Check all that apply.*

Landline phone call

Mobile phone voice call

Video call

Email

In person

Instant message

Other: -----

6. **Did your mentoring team use the communication script?**

*Mark only one oval.*

- Yes  
 No, skip the next question

7. **How prepared did you feel to keep your power by owning your emotions?**

*Mark only one oval.*

	1	2	3	4	5	6	7	
Unprepared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very prepared

8. **Did you attend the on-campus activity?**

*Mark only one oval.*

- Yes  
 No, skip the next question

9. **How prepared did you feel to respond to interpersonal interactions without judgement?**

*Mark only one oval.*

	1	2	3	4	5	6	7	
Unprepared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very prepared

10. **How satisfied are you with the interaction with your mentoring partner?**

*Mark only one oval.*

	1	2	3	4	5	6	7	
Not at all satisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very satisfied

11. **Do you know what your average grade has been during the two week period of 02/27/16 -03/10/16?**

*Check all that apply.*

- A
- B
- C
- D
- F
- Unknown

12. **How likely are you to graduate from this college?**

*Mark only one oval.*

	1	2	3	4	5	6	7	
Not likely at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very likely

13. **Are you voluntarily participating in the single mother research project?**

*Mark only one oval.*

- Yes
- No or I am not a single parent

## Two Week Interaction Survey March 11 - March 23, 2016

1. **What is your secret code name?**

-----

2. **Are you a mentor or mentee?**

*Check all that apply.*

Mentor

Mentee

3. **How many text messages did you send to your mentoring partner during the two week period of 03/11/16 - 03/23/16?**

-----

4. **How many text messages did you receive from your mentoring partner during the two week period of 03/11/16 - 03/23/16?**

-----

5. **Did your team communicate any other way during the two week of period of 03/11/16 - 03/23/16? Select all that apply**

*Check all that apply.*

Landline phone call

Mobile phone voice call

Video call

Email

In person

Instant message

Other: -----

6. **Did your mentoring team use the communication script?**

*Mark only one oval.*

Yes

No, skip the next question

7. **How prepared did you feel to respond positively to everyday annoyances?**

*Mark only one oval.*

1      2      3      4      5      6      7

---

Unprepared                        Very prepared

8. **How satisfied are you with the interaction with your mentoring partner?**

*Mark only one oval.*

1      2      3      4      5      6      7

---

Not at all satisfied                        Very satisfied

9. **Do you know what your average grade has been during the two week period of 03/11/16 -03/23/16?**

*Check all that apply.*

- A
- B
- c
- D
- F
- Unknown

10. **How likely are you to graduate from this college?**

*Mark only one oval.*

1      2      3      4      5      6      7

---

Not likely at all                        Very likely

11. **Are you voluntarily participating in the single mother research project?**

*Mark only one oval.*

- Yes
- No or I am not a single parent



# Two Week Interaction Survey March 24 - April 5, 2016

1. What is your secret code name?

.....

2. Are you a mentor or mentee?

*Check all that apply.*

Mentor

Mentee

3. How many text messages did you send to your mentoring partner during the two week period of 03/24/16 - 04/05/16?

.....

4. How many text messages did you receive from your mentoring partner during the two week period of 03/24/16 - 04/05/16?

.....

5. Did your team communicate any other way during the two week of period of 03/24/16 - 04/05/16? Select all that apply

*Check all that apply.*

Landline phone call

Mobile phone voice call

Video call

Email

In person

Instant message

Other: .....

6. **Did your mentoring team use the communication script?**

*Mark only one oval.*

- Yes  
 No, skip the next question

7. **How prepared did you feel to communicate assertively?**

*Mark only one oval.*

	1	2	3	4	5	6	7	
Unprepared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very prepared

8. **Did you attend the on-campus activity?**

*Mark only one oval.*

- Yes  
 No, skip the next question

9. **How prepared did you feel to respond positively to everyday annoyances?**

*Mark only one oval.*

	1	2	3	4	5	6	7	
Unprepared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very prepared

10. **How satisfied are you with the interaction with your mentoring partner?**

*Mark only one oval.*

	1	2	3	4	5	6	7	
Not at all satisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very satisfied

11. **Do you know what your average grade has been during the two week period of 03/24/16 -04/05/16?**

*Check all that apply.*

- A
- B
- C
- D
- F
- Unknown

12. **How likely are you to graduate from this college?**

*Mark only one oval.*

	1	2	3	4	5	6	7	
Not likely at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very likely

13. **Are you voluntarily participating in the single mother research project?**

*Mark only one oval.*

- Yes
- No or I am not a single mother

# Two Week Interaction Survey April 6 - April 18, 2016

1. What is your secret code name?

.....

2. Are you a mentor or mentee?

*Check all that apply.*

Mentor

Mentee

3. How many text messages did you send to your mentoring partner during the two week period of 04/06/16 - 04/18/16?

.....

4. How many text messages did you receive from your mentoring partner during the two week period of 04/06/16 - 04/18/16?

.....

5. Did your team communicate any other way during the two week of period of 04/06/16 - 04/18/16? Select all that apply

*Check all that apply.*

Landline phone call

Mobile phone voice call

Video call

Email

In person

Instant message

Other: .....

6. **Did your mentoring team use the communication script?**

*Mark only one oval.*

- Yes  
 No, skip the next question

7. **How prepared did you feel to make choices that allow you to keep your free will?**

*Mark only one oval.*

	1	2	3	4	5	6	7	
Unprepared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very prepared

8. **How satisfied are you with the interaction with your mentoring partner?**

*Mark only one oval.*

	1	2	3	4	5	6	7	
Not at all satisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very satisfied

9. **Do you know what your average grade has been during the two week period of 04/06/16 -04/18/16?**

*Check all that apply.*

- A  
 B  
 C  
 D  
 F  
 Unknown

10. **How likely are you to graduate from this college.**

*Mark only one oval.*

	1	2	3	4	5	6	7	
Not likely at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very likely

11. **Are you voluntarily participating in the single mother research project**  
*Mark only one oval.*

Yes

No or I am not a single mother

---

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# Two Week Interaction Survey April 19 - May 1, 2016

1. What is your secret code name?

-----

2. Are you a mentor or mentee?

*Check all that apply.*

Mentor

Mentee

3. How many text messages did you send to your mentoring partner during the two week period of 04/19/16 - 05/01/16?

-----

4. How many text messages did you receive from your mentoring partner during the two week period of 04/19/16 - 05/01/16?

-----

5. Did your team communicate any other way during the two week of period of 04/19/16 - 05/01/16? Select all that apply

*Check all that apply.*

Landline phone call

Mobile phone voice call

Video call

Email

In person

Instant message

Other: \_\_\_\_\_

6. Did your mentoring team use the communication script?

*Mark only one oval.*

Yes

No, skip the next question

7. **How prepared did you feel to accept the moment and own responsibility for yourself?**  
*Mark only one oval.*

	1	2	3	4	5	6	7	
Unprepared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very prepared

8. **Did you attend the on-campus activity?**  
*Mark only one oval.*

Yes  
 No, skip the next question

9. **How prepared did you feel to make choices that allow you to keep your free will?**  
*Mark only one oval.*

	1	2	3	4	5	6	7	
Unprepared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very prepared

10. **How satisfied are you with the interaction with your mentoring partner?**  
*Mark only one oval.*

	1	2	3	4	5	6	7	
Not at all satisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very satisfied

11. **What was your GPA at the beginning of the term?**  
*Mark only one oval.*

higher than 4.0  
 between 3.0 and 4.0  
 between 2.0 and 3.0  
 between 1.0 and 2.0  
 less than 1.0  
 I don't know



12. **What was your GPA at the end of the term?**

*Mark only one oval.*

- higher than 4.0
- between 3.0 and 4.0
- between 2.0 and 3.0
- between 1.0 and 2.0
- less than 1.0
- I don't know

13. **Have you registered for classes next term?**

*Mark only one oval.*

- Yes
- No

14. **How likely are you to graduate from this college?**

*Mark only one oval.*

	1	2	3	4	5	6	7	
Not likely at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very likely

15. **Are you voluntarily participating in the single mother research project?**

*Mark only one oval.*

- Yes
- No or I am not a single mother.

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## Appendix H

### Table of questions and variables

## Questions and Variables

<b>Research Question</b>	<b>Independent</b>	<b>Dependant</b>	<b>Survey Questions</b>
What impact on intent to persist did the mobile activities have compared to the face to face activities?	Intent to persist	Mobile Activities and Face to Face Activities	Did your team use the training script? Do you know what your average grade has been over the last two weeks? I expect to graduate from this college?
How did the activities designed to foster the relationship work within the mobile environment?	Relationship strength	Activities	Number of messages exchanged? Did you team communicate any other way? Did your team use the training script? How satisfied are you with the interaction with your mentoring partner?
What impact did the development of a peer e-mentoring program have on persistence for single mothers in higher education?	Persistence	Program Participation	Do you know what your average grade has been over the last two weeks? I expect to graduate from this college? Have you registered for classes next term?
What impact did the program have on the mentees and mentors average GPA?	Average GPA: Beginning and Ending term	Program Participation	Do you know what your average grade has been over the last two weeks? What was your GPA at the beginning of the term? What was your GPA at the end of the term?

Appendix I  
Interview protocol

## **Ethnography interview protocol**

**Beginning of interview greeting:** Hello, my name is Brenda Varner and I am a doctoral candidate at Nova Southeastern University. Thank you so much for taking the time to talk to me today. I hope you will feel comfortable enough to answer all my questions but if any make you uneasy you may simply say skip and we will move to the next question. Here is a copy of the general questions I anticipate asking. However, as we talk I may have a few spontaneous questions. Again you may simply say skip and we will move on without judgement or penalty.

**Interview Purpose:** This interview will answer three questions which will help strengthen the Peer Mentoring for Parents program. How do students with children currently solve problems? To whom do the students with children turn to for assistance when needed? Why has the Peer Mentoring for Parents Program attracted mentors but not mentees?

### **Explanations:**

**Project Explanation:** The Peer Mentoring for Parents program has three goals. First to help students build connections. Second to encourage persistence in higher education. And third to minimize time impacts by using mobile technologies. Mentee participation has been low and the goal of this specific phase of the project is to understand why. Then to use that information to build a stronger program geared specifically to the needs expressed in these interviews.

**Recording Explanation:** I will be hand writing notes as we go to assist in writing the final report. To help protect your privacy I will not record your name in my notes during the interview and there will be no cross reference to real names. Is this ok with you?

**Consent forms:** Before we get started we must take care of the legalities. This is the consent form I emailed you. It outlines the study and any benefits to you. It also specifies what you can expect to happen and what is expected of you during this interview. You may stop participating at any time. Please feel free to ask any questions you may have about the study now or to contact me, the IRB or Dr. Abramson at the contact information provided on the consent form at any time in the future.

Do you have any other questions about the interview?

### **Questions:**

Do you work outside the home?

What type of work do you do?

How long have you been pursuing your degree?

What is your major?

What motivated you to return to college?

How do you handle the competing demands as a mother, student, employee, laundress, and head chef for your time?

Where do you get the information you need to succeed?

In what form does that information take?

Could you tell me about a problem you have had to solve while attending college?

Could you tell me about someone who has helped you solve an educational problem?

How did you find that person?

What has been your biggest challenge since returning to college?

Have you resolved that challenge?

How did you resolve that challenge?

What type of technology do you currently use?

Do you have internet access from home?

Do you have a data plan for your cell phone?

How would you rate your data plan: unlimited, generous, average, limited, or very limited?

Does this influence your decision when asked to participate by phone?

Do you use your cell phone to reach out for assistance as educational problems or challenges are encountered?

Could you tell me about one of these encounters?

Have you heard about the peer mentoring for parents program?

What influenced your participation decision?

How do you usually find out about programs being offered at the college?

Do you know any other single mothers who are students that would be interested in sharing their story with me?

**End of interview:** Do you have any further questions for me? [Pause] Thank you so much for taking the time to talk to me today. Please don't hesitate to contact me with any further questions about the study. Future students with children will benefit from the information you have shared. Give the interviewee the gift card.

This interview has been designed using Spradley's (2016) The Ethnographic Interview.

## Appendix J

### Table of Interview Responses

<b>Interview Responses</b>			
<b>Category</b>	<b>Sub-Category</b>	<b>Comment</b>	<b>Count</b>
Demographics	Gender	Female	10
Demographics	Gender	Male	2
Demographics	Interview Type	Voice Call	6
Demographics	Interview Type	Email	3
Demographics	Interview Type	Face to Face	2
Demographics	Interview Type	Text	1
Demographics	Years in School	1	3
Demographics	Years in School	3	3
Demographics	Years in School	New Student	2
Demographics	Years in School	8	1
Demographics	Years in School	4	1
Demographics	Years in School	0.5	1
Demographics	Years in School	Recent Grad	1
Participation	Participation	Hadn't heard	6
Participation	Participation	Past participant	2
Participation	Participation	New Student	1
Participation	Participation	Heard	1
Problem Solving	Handling Problems	Plan Ahead	7
Problem Solving	Handling Problems	Routine	6
Problem Solving	Handling Problems	Prioritize	5
Problem Solving	Handling Problems	Self Discipline	4
Problem Solving	Handling Problems	Do one thing then next	2
Problem Solving	Handling Problems	Breathe	1
Problem Solving	Handling Problems	Open mindedness	1
Problem Solving	Handling Problems	Positive attitude	1
Problem Solving	Help	Family	7
Problem Solving	Help	Professors/Staff	4
Problem Solving	Help	Mentors	1



<b>Category</b>	<b>Sub-Category</b>	<b>Comment</b>	<b>Count</b>
Problem Solving	Highlighted Problem	Professor/Staff	3
Problem Solving	Highlighted Problem	Time	3
Problem Solving	Highlighted Problem	Balance	2
Problem Solving	Highlighted Problem	Daycare	2
Problem Solving	Highlighted Problem	Red Tape	2
Problem Solving	Highlighted Problem	Insecurity	1
Problem Solving	Highlighted Problem	Change	1
Problem Solving	Highlighted Problem	Inconsistant policies	1
Problem Solving	Highlighted Problem	Software	1
Problem Solving	Highlighted Problem	Staying focused	1
Problem Solving	Highlighted Problem	Changing guidelines	1
Problem Solving	Highlighted Problem	Personal problems	1
Technology	Equipment	Computer	12
Technology	Equipment	Smart Phone	12
Technology	Equipment	Home internet	9
Technology	Equipment	Tablet	4
Technology	Equipment	Data - Unlimited	4
Technology	Equipment	Data - Average	2
Technology	Equipment	Data - Limited	2
Technology	Technology uses	Text other students for group projects, meetups, ext	4
Technology	Technology uses	Check class notifications, campus email, ect	4
Technology	Technology uses	Uses cell only occassionally for school	3
Technology	Technology uses	Reach out for help	3
Technology	Technology uses	Home organizaiton, email	1
Technology	Technology uses	home org and email	1
Technology	Technology uses	Internet searches	1

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