The Effect of Initial iPad Training on Social Workers's Technology Acceptance

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Abstract

The purpose of this study is to measure change in social workers's willingness to accept new technology when the deployment of that technology is paired with entry-level skills training. Social workers are among those impacted by the shifts to remote work due to the COVID-19 pandemic, but research and experience in the study organization demonstrate, social workers often resist accepting new technology, even though they would likely benefit from adoption. Using the Technology Acceptance Model as a framework, This study measures the effect iPad and iPhone training has on participants's attitudes toward using the devices as measured using the UMUX questionnaire as a pre- and post-assessment. While the data collected for this study did not evince a clear indication of change for average UMUX scores from pre- to post-assessment, the participants reported a wide variety of change in scores: some reporting lower UMUX scores, and others higher UMUX scores on the post-assessment. Overall, despite the lack of clear evidence as to the effect of the training on participants's attitude toward using the devices, the UMUX scores recorded were generally very high, suggesting that participants were, in fact, eager to adopt iPads and iPhones for work.

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Chapter 1 - Topic and Problem

Topic

The purpose of this study is to measure change in social workers's willingness to accept new technology when the deployment of that technology is paired with entry-level skills training. Increasingly, technology is at the center of the twenty-first-century work experience, and this process has accelerated under the work-from-home requirements that COVID-19 placed on so many people in the spring of 2020. Whether employees are working from home accessing company resources via the internet or working in the community away from the home office, the employee's experience is likely mediated through some form of mobile technology. And yet, new forms of technology are is not always welcomed by employees. This is also true for social workers. Social workers stand to gain a lot from technology: a recent IBM study concluded that the average social worker only spends about 18 percent of their time with clients, and spends 33 percent of their time on paperwork. The IBM study concludes that social workers stand to benefit from adopting mobile technology, "Mobile access to case management systems, information, assessment and referral capabilities, and other tools can go a long way toward reducing the caseload and workload, and thus caseworkers have more time to better serve their clients" (IBM, 2015, p.2). And yet, social workers tend to be late adopters of technology, and, in fact, have often actively resisted the adoption of new forms of technology (Elliot and Mazhari, 2017, p.5). This is certainly true for the organization in which the current study took place. For example, prior to the research conducted for this study, several social workers were keeping paper chart notes, and some were having their supervisors fill out time-cards on their behalf instead of using the organization's electronic system.

Given the resistance to adopting new forms of technology, the topic being addressed pertains to social workers's attitudes toward technology and the extent to which those attitudes are affected by a technology training program.

Problem Statement

Social workers, who have sometimes resisted accepting or have refused to use new technology, are being issued new iPads and iPhones and will need to be trained on using them to complete job-related tasks. A significant number of social workers do not have entry-level skills for using iPads or iPhones effectively for their work. These skills are important to have as social workers will be expected to use the iPads and iPhones to engage in a variety of activities in the course of their jobs. The lack of skills can also negatively impact social workers's attitudes toward adopting the new forms of technology, which undermines their ability to do their jobs effectively.

Problem Background and Causes

The social services agency in this study employs social workers and caring individuals who are demonstrably good at their jobs, but have struggled to utilize technology necessary for record keeping and communication needs associated with their jobs. For example, some employees still rely on their supervisors to record their time in their electronic timesheets, some employees resist using email for communication, as well as the organization's chosen communications platform, Microsoft Teams. This resistance to technology may be due to lack of knowledge about how to use their work-assigned technology. This has historically consisted of Windows-based desktops, located in company offices and physically connected to centralized file servers. Employees were expected to increase their mobility when meeting with clients and

were issued Window-based laptops. Employees with laptops were expected to use a VPN service to remotely access the centrally-housed files on the server. As all users have been transitioning to remote work due to COVID-19, accessing the centrally-located file server has become cumbersome and some users have chosen not to, making collaborative documents and databases difficult to maintain. Compounding the difficulties with technology, due to COVID-19 restrictions, and because of the inherently mobile nature of the employee's community-directed jobs, many employees work remotely and therefore are even more dependent on technology for communication with colleagues, this includes employees who previously relied on the physical presence of co-workers in the office for communication. So, on two fronts —access to company resources and access to co-workers—newly acquired technology needs to bridge the gap created by poorly functioning technology and the move to remote work.

User's attitudes toward the technology assigned to them play a role in technology adoption and use. As Elliot and Mazhari (2015) discovered, "social work has developed a turbulent relationship with technological change; however our research findings suggest that this stems from the fact that technological change has primarily been imposed on social work practice" (p.5). Researchers across a variety of industries have developed tools for gauging workers's attitudes toward technology adoption processes, the most well-known being the Technology Acceptance Model (TAM). Developed in 1985 at IBM by Fred Davis, the Technology Acceptance Model has sense been validated and deployed to study factors contributing to user attitudes toward technology and the relationship between those attitudes and user acceptance and use of technology in the workplace. The primary two factors contributing to user attitudes toward using a technology (A) are user perceptions as to the technology's

usefulness (U) and the user's perceptions as to the technology's ease of use (E) (Davis, 1985, p.24). Several standardized assessment tools have subsequently been developed to measure user attitudes toward technology adoption, as outlined in Lewis (2018).

For this study, the social work organization has recently purchased iPhones and iPads for many of its mobile employees, and wishes to deploy them with an increased acceptance level by employees. These factors present an opportunity: perhaps by introducing iPads to employees and with adequate technology training, employees that have historically been reluctant or resistant to using technology as part of their jobs may gain new confidence and more favorable attitudes to technology-use. This, then, is what this study intends to measure.

Research Question

What effect does pre-service iPad implementation training have on user acceptance of technology?

Topic and Problem Conclusion

Mobile technology such as iPads and iPhones promise to free up social workers to spend more time with clients by decreasing the time and effort it takes to do their paperwork and by enabling easier communication with clients and co-workers. This promise will only be realized if social workers embrace the technology provided for them, which in turn depends on those social workers perceiving that the technology will be useful and easy to use. These goals, in the estimation of this study, will be more likely achieved if the technology deployment is paired with a training program that orients the users to using the technology for common work tasks.

Chapter 2 - Review of the Literature

Overview of the Literature

Employees are increasingly dependent on work-issued technology to stay connected to their colleagues and to complete required tasks. This is especially true as the COVID-19 pandemic has dramatically increased the numbers of people who are working remotely. No longer attached to a shared office space, employees's primary point of contact with their employer is primarily through work-issued technology devices. Social workers, whose jobs are performed in the community, are no exception. For this study, the social work organization closed the main offices to employees, while social workers needed to continue working in the community. This necessitated an expanded reliance on computer technology: not only for field notes, but for video conferencing and messaging services for communication with clients and co-workers alike. In order to continue the social work that this organization has as it's mission, social workers had to embrace technology in new ways: but this embrace was complicated by a history of resistance to using technology on the part of many of these particular social workers.

The following literature review then, investigates how social workers have leveraged technology for their particular needs, paying close attention to the kinds of tasks that social workers might gravitate toward when using mobile technology such as tablets and mobile phones. The review continues with a broader lens, and looks at research into employees's attitudes toward adopting new technologies, this time looking carefully at ways that organizations can increase employees's receptivity to new technologies during deployment. Finally, we will survey the literature addressing how to measure acceptance of new

technologies.

Attitudes Toward Adopting Technology

Technological innovations come at breakneck speed: each year heralds devices and software with new capabilities and promising solutions to business and personal problems. Sometimes, it seems, that the new technologies are merely solving problems that the prior generation of technologies created. In this frenetic pace of technological progress, it is no surprise that some users grow weary or even antagonistic toward new technology initiatives introduced in their workplaces.

Edison and Geissler (2003) set out to develop a tool to measure "general attitudes toward technology" (137) by developing a theoretical construct, "affinity toward technology" 140). The construct consisted of several attitudes: Tolerance for ambiguity, Dispositional optimism (DOPT), Locus of control, Need for cognition, and Self-efficacy. The study did find evidence to support the hypotheses: "Some individuals are more positively disposed towards technology than others and the attitudinal distribution may be predicted through the investigation of antecedents to attitude towards affinity" (148). The authors conclude, among other implications of the study, that "a positive attitude towards general technology must be considered an employee asset for many companies" (149). Employers may be well-advised to seek out people with positive affinity toward technology in their hiring process, or to design and implement training programs that encourage such affinity.

Increasingly employers need employees to be "literate with the existing state of the art information technology, but also will have the capacity to learn and use future innovative computer technologies, which are expected to be developed in the future" (Perl and Griffin,

2009, 1). Perl and Griffin's (2009) study confirmed their hypothesis that end-user attitudes toward technology have changed in the twenty-first century, and toward a more positive outlook. Interestingly, their second hypothesis, which queried whether the end-user's age influenced their attitude toward technology proved inconclusive. That is, while end-user's attitudes toward technology trended positive, there was no correlation between age and that positive outlook (6).

Amusan and Ajibola (2017) discuss employee attitudes toward new technology, especially in the context of multi-national corporations. They outline a variety of paradoxes that introducing new technologies introduce (Table 1), which is helpful for schematizing the kinds of attitudes that employees may take toward new technologies (5). The article suggests, among its conclusions, that organizations implementing new technologies "need to ensure that the new technology is unique, user-friendly, and useful, it is updatable, creative and has embedded feedback mechanism" (10). This focus on the experience of the user has developed a theme in the literature of technology acceptance.

Table 1: Paradoxes of technological products

Paradox	**Description**	**Illustration**
Control-chaos	Technology can facilitate order and it can lead to disorder	Telephone answering machine can help record messages but leads to disorder due to uncertainty about whether the message has been received
Freedom-enslavement	Technology can provide independence and it can lead to dependence	The motor car clearly gives independence to the driver but many drivers feel lost without it
New-obsolete	The user is provided with the latest scientific knowledge but this is soon outmoded	Computer game industry

Efficiency-inefficiency	Technology can help reduce effort and time but it can also lead to more effort and time	Increase complexity in VCRs has led to many wasting time in setting recordings
Fulfills needs-creates needs	Technology can help fulfill needs and it can lead to more desires	The internet has satisfied the curiosity of many but has also stimulated many desires
Assimilation-isolation	Technology can facilitate human togetherness and can lead to human separation	Email and chat rooms help communication but in some cases heavy users can become isolated
Engaging-disengaging	Technology can facilitate involvement but it can also lead to disconnection	Advances in mobile phone memory means that many people no longer need or have the skills to discover the telephone number from a telephone directory

Amusan and Ajibola, (2017), 5.

Gewald, et al., (2017) conducted a multi-national study of the expectations that millennials (people born between 1980 and 1997) have concerning technology in the workplace, and they discovered that millennials expect to use their personally-owned technology for work purposes (69). The authors call this trend "IT consumerization," and the introduction of personal devices into a corporate IT infrastructure does come with a threat to security (63).

Social Worker's Use of Technology

According to a 2015 white paper published by IBM, "What child welfare caseworkers need to go mobile," even though social workers spend one-third of their time on paperwork, mobile technology adoption has run approximately ten years behind the rest of the business world (2). One consequence of this disparity is that, despite caseloads of twenty to thirty children or families, "the average caseworker only spends about 18 percent of their time in face-to-face contact with children and families" (2). Mobile technology adoption stands to significantly benefit the work-life for social workers. However, as Baker, et al. (2014) argues, "many social workers view ICT (Information and Communication Technology) as

dehumanizing and taking them away from their core practice tasks" and "social workers tend to view ICTs as a management tool rather than a practice one" (470). Social workers stand to benefit from introducing mobile technology into their practices, but are often resistant to it.

As with other fields, deploying mobile technology without proper training and stakeholder buy-in risks creating strong resistance on the part of the social workers to the new devices. This is the conclusion drawn by Elliott and Mazhari's 2017 survey of mobile technology use by social workers in British Columbia and Washington State. Based on this conclusion, Elliott and Mazhari recommend that device deployment be preceded by a process of stakeholder buy-in to ensure the devices meet the needs of social workers in the field. Deployment should be combined with appropriate training on the devices, and assessment instruments to determine the effectiveness of the devices once they are in use (1). Bullock and Colvin (2015) set out to investigate the integration of technology into social work practices, noting that "integrating communication technology can revolutionize social work practice" (2). Using the Technology Acceptance Model (TAM—see below) to analyze the link between user perceptions of technology and their intension to embrace and use that technology in the workplace. Even given the potential for technology to positively affect social work practice, it can also present unique challenges, and Bullock and Colvin cite ethical challenges and resistance to technology by social workers as examples (3). Especially relevant to the current study, Bullock and Colvin offer for consideration that adopting communication technology comes as a particular benefit for rural communities, where "rural areas frequently experience a scarcity of specialized professionals, resources, and clinical services, researchers have acknowledged that e-mail, instant messaging, and video conferencing can create

opportunities" for both social workers and the children and families they serve (7).

This opportunity to leverage the communication tools offered by mobile technology comes with ethical considerations, and Loue (2016) evaluates the ethics of online counseling with patients (23), using the internet for "professional consultation, supervision, and support" (25), and "ethical concerns relating to on-line consultation and supervision" (26). Loue notes that concerns for the security of patient information, legal implications due to geographically-bound licensing and the relative geographically-unbound nature of online therapy, and the limited ability for health practitioners to respond in crisis situations remain and need to be addressed with the adoption of mobile technology (28–29). Nevertheless, Loue recognizes that integrating mobile technologies into social work practices offers real benefit to both social workers and the clients: "Internet-facilitated mechanisms enable individuals to overcome financial and geographic hurdles that might otherwise prevent them from obtaining the mental health treatment that they need" (28).

Whalley, et al. (2015) select one particular device, Apple's iPad, to investigate the "usability of iPads as devices for collection of field data" (94). While fieldwork is part of the social worker's practices, Whalley's, et al.'s paper investigates iPads for keeping field notes across several disciplines. The investigation found that iPads "have major usability advantages over laptops in the physical attributes mentioned above, especially by virtue of their size, power consumption and general capabilities" (99), and that tablets such as iPad can largely replace laptops for fieldwork.

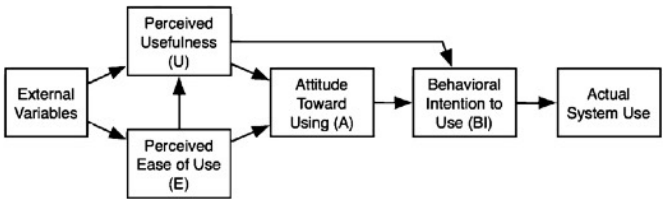
Based on this review, social workers stand to benefit greatly from adopting technological tools, by increasing their mobility and decreasing barriers to the children and

families they serve. Nevertheless there are several issues that need to be addressed when introducing new technologies for social workers: first, there are several ethical and legal issues that would need addressing either through training or policy; secondly, social workers have resisted the introduction of new technologies when they feel like an imposition rather than an aid. With this in mind we turn to research that has understanding technology adoption as its goal.

Measuring Technology Acceptance

In 1985, Fred Davis submitted his doctoral dissertation to MIT in which he proposed a model for testing levels of technology acceptance within an organization. His model, known as the Technology Acceptance Model (TAM) has been widely used for evaluating the success of technologies as they are introduced into organizations (Lopez-Bonilla & Lopez-Bonilla, 2017, p. 941). Davis's model describes how a technology's degree of acceptance is largely governed by user decision to use that technology, or the users' Behavioral Intention to Use (BI) the technology. This intention is driven by user attitude toward the technology (A), which is in turn driven by the a combination of that technology's Perceived Usefulness (U) and its Perceived Ease of Use (E) (Davis, 1985, pp. 24–26). TAM proposes, then that "one's actual use of a technology system is influenced directly or indirectly by the user's behavioral intentions, attitude, perceived usefulness of the system, and perceived ease of the system" (Park, 2009, p. 151). Since the introduction of the TAM, several attempts have been made to

Figure 1: Technology Acceptance Model



improve upon it, most notably by Venkatesh and Davis (2000), who extended the original model by incorporating several theoretical constructs to further define user perception of a technology's usefulness (pp. 187–192). The TAM2 model extend the usefulness of the TAM model by explaining how a user may come to perceive a technological system as "useful" (Venkatesh and Davis, 2000, p. 200). A significant consideration for the TAM2 model was the introduction of the construct "subjective norm," which considers that "before a system is developed, users' knowledge and beliefs about a system are 'vague and ill-formed' and they must therefore rely more on the opinions of others as a basis for their intentions" (Venkatesh and Davis, 2000, p. 190). New users rely on social cues within the organization in making assessments concerning the technology's usefulness (U) prior even to experiencing the technology for themselves. The added nuance afforded by TAM2's introduction of the theoretical constructs resulted in its accounting for "between 37% and 52% of the variance in usage intentions" in the four longitudinal field studies conducted by the authors (Venkatesh and Davis, 2000, p. 195). That is, the model was able to explain an individual user's intention to use a technology (BI) based on the external factors described in the theoretical constructs leading to the user's perception of a technology's usefulness (U). This conclusion has been validated by several other studies, including by Malhotra & Galletta (1999) who conclude that: "given the ongoing trend toward end-user computing and greater role of users' self-determination in interacting with increasingly flexible technologies in remote and virtual environments, the theory of social influences seems to offer a rich understanding of user behavior in the implementation of new communication, coordination and collaboration technologies" (10).

The validity of the TAM2 model, paying particular attention to the addition of the construct of the subjective norm, has been demonstrated even when applied to technologies unforeseen by the original study. In Park's (2009) analysis of university students' behavioral intention to use e-learning tools, Park employs a version of the TAM2 model and offers a couple of conclusions. First, Park concludes that TAM remains "a useful theoretical model in helping to understand and explain behavioral intention to use e-learning" (158). Second, Park highlights two theoretical constructs that played significant roles in user construction of a behavioral intention to use the e-learning tools: self-efficacy and the subjective norm. Park considers the possibility that these two theoretical constructs act as a pair: "E-learning self-efficacy may be considered an intrinsic motivational factor and subjective norm may be an extrinsic motivational factor that could help the university students self-regulate their motivation on e-learning" (158).

The application of the TAM model to asynchronous e-learning is relevant to the current study, as is Abu-Dalbouh's (2013) application of TAM to mobile computing devices within the health care industry. Abu-Dalbouh created a questionnaire designed to measure user acceptance of mobile devices in the workplace according to the TAM model. Abu-Dalbouh concludes that the data gathered leads to the conclusions that, "attitudes toward mobile technology are taken to consist of motivation to use portable devices, satisfaction with mobile and experience of the benefits of mobile" (767).

Summary

Whether because employers need increasingly sophisticated technology to operate or because employees themselves come to work expecting to use the technology they've become

comfortable with in their personal lives, technology is an increasingly significant part of employees' working lives. So much so that employee attitudes toward technology has become an indicator of their success in an organization. This is true of social workers, who have often resisted the introduction of new technologies, but would almost certainly benefit from technology that reduces their paperwork load and allow them to spend more time with the children and families that they serve.

Several models for measuring technology acceptance have been developed, with the most widely used being the Technology Acceptance Model (TAM). This model has been applied in a wide variety of situations where technology was introduced and has been validated in numerous studies. One significant addition to the TAM model is the introduction of the subjective norm, which measures how a person's social context can influence their attitudes toward new technology. If a well-regarded and successful teacher, for example, embraces a new technology in their classes, it may increase other teachers perceptions of the technology's perceived usefulness (U), which will make it more likely that the other teachers will also develop a behavioral intention to use (BI) that technology.

Chapter 3 - Research Methodology

Research Design

The Apple Device Training being developed, of which this study constitutes a part, will be deployed broadly across all employees of a social work agency. This training program has been created using Microsoft Sharepoint, for easy access by employees remotely and asynchronously. This study looks at the field trial phase of the company-wide training, and seeks to measure change in technology acceptance, or the "Attitude toward using (A)," a portion of the Technology Acceptance Model (Figure 1 above). Employees will be receiving Apple iPads and/or iPhones for use at work, and will be receiving training geared toward learning to use those devices effectively (see Appendix A). The training materials will be delivered asynchronously, with brief embedded surveys to record participant progress.

The training will be field tested with a small group of initial employees prior to general deployment. The training program will be tested by employing a pre-assessment and a post-assessment to measure employee attitudes toward using technology before and after completing the training. Based on the resulting data, the training program will be revised prior to general deployment.

This research study deviates from the expected action research and utilizes a quantitative research method because of the availability of standardized user experience measurement tools that have been validated through external research. The reliability of these tools will enhance the usefulness of this study for the participating social work organization, which desires assurance that the device onboarding training is effective at addressing social workers' reluctance toward using technology.

The standardized assessments used for this quantitative research have been developed in conjunction with the Technology Acceptance Model discussed in chapter 2, and are used to measure user attitudes toward using technology. Specifically, the UMUX (Usability Metric for User Experience) questionnaire developed in 2010 by Finstad. The UMUX questionnaire will be used as a pretest and posttest, and the resulting data will be calculated based on the method specified by the measurement instrument and then compared using a paired-samples t-test method.

Research Questions

This investigation will consider the following question:

1. What impact does pre-service training on iPad and iPhone use have on participant attitudes toward using those devices in a work setting?

Participants

This training will be delivered to employees at a social work agency in a rural town, located roughly fifty miles from the nearest urban center, with many of the employees working from home and traveling to client homes where internet and cellular service is sparse. The service area for this social work agency covers five counties across two states: about seventy-three hundred square miles in total. These counties are all rural: the largest town has a population of around fifteen thousand people (U.S. Census Bureau, 2019), and the average population across all five counties is just 15.2 persons per square mile. Under normal circumstances, the social workers would work either in the community or out of one of two agency buildings. When this study was performed, under work from home edicts due to COVID-19, both agency offices were closed and all employees worked remotely.

The social work agency is bi-lingual, delivering services communicating in both Spanish and English. Prior to general deployment, the training materials will be professionally translated for the benefit of those employees who are more comfortable with Spanish. In preparation for this, the training materials have been developed using Plain Language guidelines developed by the United States government, which seeks to make technical documentation more accessible.

The social work organization offers a variety of services for the community, including community health, foster care, community ID, services for migrant and farm workers, and a school for at-risk youth.

The field trial will be conducted with a group within the social work agency, which consists of social workers doing child and family services. In addition, several managers will participate in the field test. In all, the participants in the field trial consist of nineteen employees (see Table 2):

Table 2: Field Trial Participants

	Family Services Staff	Managers	Administrative
Number	11	4	4
Gender	90% female	50% female	75% female
Primary Language	6 Spanish / 5 Eng	1 Spanish / 3 Eng	4 Eng
Full-time / Part-time	8FT, 3PT	4 FT	2 FT, 2PT

The field trail consists of eighteen staff members, eleven of which are social workers. Of the other eight staff members, four have served as social workers in the past before transitioning the managers. The remaining three staff members work as administrative staff: in HR, finance, and marketing. All the field trial participants are receiving iPads for the field trial.

The Family services staff was chosen because they constitute a cohesive group within the organization that is also roughly representative of the demographic makeup of the entire staff. The administrative staff and managers participating the field trial are doing so because their continued input and support of the Apple device rollout and training is important for the overall program's success. While the employee's home office (between the organization's two locations) might otherwise be a significant demographic factor in the program's success, due to COVID-19, all employees are working from home.

Data Collection Instruments and Methods

The data collection for this project will fall into two phases. First, a pretest that will measure participant attitudes toward technology using the UMUX questionnaire. Second, participants will take an identical post assessment.

Pre-Test: Participant attitudes toward technology (UMUX)	Instructional Unit; delivered as e-learning module	Post-test: Participant attitude toward technology (UMUX)

The quantitative data collection instruments for this training program will be built into the training materials themselves, as embedded into the Sharepoint pages as Microsoft Forms, which record participant responses as well as timestamps in a Microsoft Excel spreadsheet.

After the training modules are delivered to the participants, data will be collected using a post-assessment identical to the pre-assessment. The post-test will follow the same format as the pretest and will be delivered to the field trial participants embedded in a follow-up email.

The chosen data collection instrument is the Usability Metric for User Experience Questionnaire (UMUX), developed by Kraig Finstad in 2010 to measure user perceptions of a technology's usability. The questionnaire consists of four questions, measured with a seven-point

Likert scale from "Strongly Disagree" to "Strongly Agree." The questions are (Finstad, 2010, p. 325):

Usability Component	**Candidate UMUX item**
Effectiveness	[This system's] capabilities meet my requirements.
Satisfaction	Using [this system] is a frustrating experience.
Overall	[This system] is easy to use.
Efficiency	I have to spend too much time correcting things with [this system].

Figure 2: UMUX Questions: Bracketed elements are to be replaced with the relevant system.

The questions in the UMUX Questionnaire map well onto the "Perceived Usefulness (U)" and "Perceived Ease of Use (E)", which are the two components of the "Attitude Toward Using (A)" which is central to a user's "Behavioral Intention to Use (BI)" in the Technology Acceptance Model discussed above.

Based on Finstad's initial study the UMUX questionnaire records a reliability index of .94 on The Cronbach's alpha, which measures internal consistency. Cronbach's alpha stipulates that scores above .80 indicate high reliability. (Finstad, 2010, p. 326). Furher, Finstad compared the UMUX questionnaire with the System Usability Scale (SUS), another standardized usability questionnaire and concluded that "the overall correlation of UMUX with the SUS, across both system conditions, was $r = 0.96$, $p < 0.001$. These results exceed the goal criterion of $r > 0.80$, providing evidence of validity" (Finstad, 2010, p. 326). Further research has largely substantiated these initial claims (Lewis, 2018, p. 1151).

The UMUX Questionnaire includes a method for calculating the score (Finstad, 2010, p. 326):

UMUX Score Calculation:

- Odd items are scored as [user score - 1]. Even items are scored as [7 - user score].
- Add up these differences and divide the sum by 24 (the highest possible score).
- Multiply the quotient by 100.
- Average results across users.

Figure 3: UMUX Score Calculation

The data from the pre-assessment and the post-assessment will be analyzed using paired-samples t-test, comparing the two data collection instruments (UMUX) described above. The resulting comparison will be used to determine what change, if any, the training program effected in the participants's attitudes toward adopting the new technology.

Data Security and Confidentiality

The data will be collected in the social work agency's Microsoft Office 365 tenant, in files only accessible to the researcher and the operations manager (who gave approval for this project and study). Any identifiable information will be removed from the files prior to reporting in this study, and all data will be reported in aggregate. The data files used for this study will be deleted at the conclusion of the study's data gathering and analysis period.

Summary

This study operates within the frequently-used Technology Acceptance Model framework and seeks to assess change in participant attitudes toward adopting new technology based on an initial training delivered asynchronously and online. Using the UMUX questionnaire, participants attitudes toward the iPhone and iPad's usability will be measured prior to completing the technology training course and again afterwards. The results from the two questionnaires will

be compared using a paired-samples t-test method to determine what effect, if any, the training had on the participants' attitudes toward the iPads and iPhones being deployed.

Chapter 4 - Results

Results Overview

The UMUX questionnaire, as developed by Finstad, specifies how the data is to be analyzed. The UMUX consists of the four questions from Figure 3 above. The bracketed [this system] for each question is designed for be modified based on the specific use case for the UMUX. The questionnaire given for this project replaces the [this system] bracketed element with "iPads and iPhones." For each of these four questions, participants were asked to rank their response on a seven-point Likert scale from "Strongly Disagree" to "Strongly Agree."

1	iPads and iPhones capabilities meet my requirements for work
2	Using iPads and iPhones is a frustrating experience
3	iPads and iPhones are easy to use
4	I have to spend too much time correcting things when using iPads and iPhones

Figure 4: UMUX Questionnaire Used in Study

Of the nineteen people who initially agreed to be part of the Apple Device Training field test, eight completed both the pre-assessment and the post-assessment. The raw data from the field trial participants can be found in Appendix B. After analyzing the data, there was little movement in the field trial participants's responses to the 4 questions presented in the UMUX scale, from an average score of 90.278 for the pre-assessment to an average score of 90.104 for the post-assessment.

Data Analysis

To score the UMUX questionnaire, the seven-point Likert scale is translated into a 7 point scale whereby the "Strongly Disagree" responses are given a score of 1, and the "Strongly Agree" is given a score of 7.

Pre-assessment and Post-assessment questionnaire (Seven-step Likert Scale):

Strongly Disagree	Somewhat Disagree	Disagree	Neutral	Agree	Somewhat Agree	Strongly Agree
1	2	3	4	5	6	7

Figure 5: Likert Scale to Score Translation

The resulting raw scores are then analyzed using the following steps:

- Odd items are scored as [user score - 1]. Even items are scored as [7 - user score].
- Add up these differences and divide the sum by 24 (the highest possible score).
- Multiply the quotient by 100.
- Average results across users.

The pre-assessment was given prior to participants using the Apple Device Training website. The pre-assessment data and UMUX questionnaire are presented in Table 3 below.

Table 3: Pre Assessment Raw / Adjusted Scores

User ID	Question 1 Raw / Adjusted	Question 2 Raw / Adjusted	Question 3 Raw / Adjusted	Question 4 Raw / Adjusted	Added (Total)	Total/24 (Quotient)	Quotient*100 **UMUX Score**
A	7 / 6	1 / 6	7 / 6	1 / 6	24	1	100
B	6 / 5	3 / 4	7 / 6	3 / 4	19	0.7917	79.17
C	7 / 6	1 / 6	7 / 6	1 / 6	24	1	100
D	6 / 5	2 / 5	4 / 3	2 /5	18	0.7500	75.00
E	7 / 6	1 / 6	7 / 6	1 / 6	24	1	100
F	6 / 5	1 / 6	7 / 6	3 / 4	21	0.8750	87.50

G	7 / 6	1 / 6	7 / 6	1 / 6	24	1	100
H	6 / 5	1 / 6	7 / 6	4 / 3	20	0.8333	83.33

The UMUX score across the users are averaged together to obtain the UMUX score for the iPads and iPhones. The Average Score for the pre-assessment is 90.625.

The post-assessment was sent to participants attached to an email after they completed the materials and activities embedded in the Apple Training website. The post-assessment was identical to the pre-assessment. The User IDs from the pre-assessment correspond to the User IDs from the post assessment. The post-assessment data and UMUX questionnaire are presented in Table 4 below.

Table 4: Post Assessment Raw / Adjusted Scores-1

User ID	Question 1 Raw / Adjusted	Question 2 Raw / Adjusted	Question 3 Raw / Adjusted	Question 4 Raw / Adjusted	Added (Total)	Total/24 (Quotient)	Quotient*100 **UMUX Score**
A	7 / 6	1 / 6	7 / 6	1 / 6	24	1	100
B	7 / 6	1 / 6	7 / 6	2 / 5	23	0.9583	95.83
C	7 / 6	1 / 6	7 / 6	1 / 6	24	1	100
D	6 / 5	4 / 3	6 / 5	3 / 4	17	0.7083	70.83
E	2 / 1	1 / 6	7 / 6	1 / 6	19	0.7917	79.17
F	6 / 5	2 / 5	6 / 5	4 / 3	18	0.7500	75.00
G	7 / 6	1 / 6	7 / 6	1 / 6	24	1	100
H	7 / 6	1 / 6	7 / 6	1 / 6	24	1	100

The UMUX score across the users are averaged together to obtain the UMUX score for the iPads and iPhones. The Average Score for the post-assessment is 90.104. Table 5 compares the pre-assessment UMUX score with the post-assessment UMUX score.

Table 5: Pre-assessment and post-assessment data comparison

Pre-Assessment UMUX Score	Post-Assessment UMUX Score
90.278	90.104

While the change in UMUX score seems nearly inconsequential, just 0.174, when looking at the per-user changes in UMUX scores (Table 6), we see that 62.5 percent of the field test participants's UMUX scores changed from the pre-assessment to the post-assessment.

Table 6: Change in User Response

User ID	Pre-assessment UMUX Score	Post-assessment UMUX Score	Change
A	100	100	0
B	79.17	95.83	16.66
C	100	100	0
D	75	70.83	-4.17
E	100	79.17	-20.83
F	87.5	75	-12.5
G	100	100	0
H	83.33	100	16.67

When viewed as per-user changes to the UMUX score, the data shows a mix of users for whom their UMUX scores went up, down, or remained the same. In the next chapter, we'll consider what this mix of scores might indicate about the training materials provided and their relationship to user's experience of they iPad and iPhone usability.

Answers to the Research Questions

The data indicates that the pre-service iPad implementation training developed for this organization had, on average, a slight negative effect on the user's attitudes toward accepting the iPhones and iPads being deployed.

Chapter 5 - Discussion and Conclusion

Overview

The data collected does not indicate whether the training materials change the participants's attitudes toward accepting the new technology. While it may be tempting, based on the change in average UMUX score from the pre- to post-assessment, to conclude that the training had no effect, looking at the per-user change in UMUX scores reveals a diversity of responses. Despite the lack of clarity based on the changes in UMUX scores, the overall average of the UMUX scores is quite high, leading to the conclusion that users are, on the whole, quite ready to accept the new devices.

Problem Solutions

Based on the findings in the literature review, as well as on evidence from the organization where this research took place, this study identified social workers's lack of technology skills as a significant problem. And, in fact, in the course of this study, evidence that the social workers who the organization's technology initiative was meant to serve, did lack some technology skills necessary for doing their jobs under the conditions of remote work. The research problem also supposed that the lack of skills could negatively impact social workers's attitudes toward adopting the new forms of technology, which would undermine their ability to do their jobs effectively.

The data gathered, however, did not lead to any conclusive results with respect to establishing a connection between workers's attitudes toward technology and their participation in this training program, which was designed to address skill deficits. On one hand, the average UMUX score actually declined slightly between the pre-assessment and the post-assessment (Table 5 above). This fact would support a conclusion that the training program had a minimal

and even slightly negative impact on participants's perception of iPad and iPhone usability in the workplace. On the other hand, when looking at individual user's changes in UMUX score between the pre- and post-assessments, the data shows a variety of different results. Roughly one-third of the respondents entered the same responses. In every case, these participants scored the maximum number of points on the adjusted values scale: selecting responses that indicated maximum levels of satisfaction with the iPads and iPhones. These uniformly positive responses may be due to a number of factors, but they are ultimately unhelpful in assessing the impact of the training program on participants's attitudes toward adopting technology, which is what this study attempted to measure. Excluding these responses from the results accentuates the changes between pre- and post-assessments, which leaves the following data:

Table 7: Changes in User Response, Maximal Responses Excluded.

User ID	Pre-assessment UMUX Score	Post-assessment UMUX Score	Change
B	79.17	95.83	16.66
D	75	70.83	-4.17
E	100	79.17	-20.83
F	87.5	75	-12.5
H	83.33	100	16.67
Average:	85	84.166	-0.834

The remaining 62.5 percent of the participants all changed their scores between the pre- and post-assessment. The stated problem that this study sought to address was to identify what effects the iPad and iPhone training program had on the participants's attitude toward adopting new technology; and Table 7 highlights these changes. The view in Table 7 accentuates the overall change in UMUX score in from pre- to post-assessment. The remaining participants

skewed slightly toward returning a lower UMUX score for the post-assessment, but even then by less than a point. From this mixed-bag of data, a couple of conclusions can be drawn.

First, the success of the training at improving the participants's attitudes toward accepting technology is essentially a wash. As we saw above, on average, the UMUX scores declined less than .2 of a point. While that fact alone might suggest that the training had no effect on participants's attitudes toward adopting technology, a closer look reveals a wide variety of responses. Thirty-seven and a half percent of the participants reported the same UMUX score for both the pre-assessment and the post-assessment, another 37.5 percent reported lower UMUX scores for the post-assessment. Just 25 percent of participants reported higher scores on the post-assessment.

Secondly, the scores indicated a generally high level of willingness to accept the iPads and iPhones, with an average score of approximately 90, and a median score of 95—on a scale of 100. On the whole, then, participants were ready to accept the introduction of new technology, with or without the training.

Strengths and Weaknesses

This project employed both an external framework, the Technology Acceptance Model (TAM), and an external measurement instrument, the Usability Metric for User Experience (UMUX). There are several strengths to this approach. First, each of these tools has been externally tested. The TAM has been used and modified extensively over the past few decades, and its value as a heuristic model for analyzing technology acceptance is broadly accepted. The UMUX has also been externally tested for reliability and validity, so we can be confident that it will measure what we're looking to measure with an acceptable degree of accuracy. Another

strength of using the UMUX questionnaire is its brevity: it only takes a minute or two of participants's time to complete the questionnaire, which encourages a higher rate of completion.

However, the brevity of the UMUX questionnaire comes at the expense of detail. Because the questionnaire is only four questions long, and because the questions only query general attitudes toward technology, more research is still needed to discover specifically how that technology or—in the case of this study—training could be improved to make it more usable. In this study, the data is inconclusive: some participants indicated a higher UMUX score after the training than before, and others a lower score: the UMUX questionnaire surfaced that data, but more directed questions will be required to ascertain why each group perceived the technology as they did.

Another weakness of the study is the small number of participants. This is due, in part, to this study's aim to measure the effectiveness of a training program in the field trial phase. But the number of participants was also lower than expected because several participants in the field trial did not complete the training. The higher than expected attrition rate may be due to the asynchronous and online nature of the training. This is, however, the condition under which many are also laboring during the wide-spread work-from-home orders due to the COVID-19 pandemic. And, in fact, from this moment in time—late Fall of 2020—it would appear that working remotely or from home will likely be more prevalent into the future, and will thus be the condition for many similar studies.

Finally, over a third of the respondents filled out the maximal UMUX values for both the pre-assessment and the post-assessment, and the resulting data was not helpful in measuring changes in the user experiences. It is unclear what factors motivated these responses, but some

care in either administering the UMUX questionnaire or providing better context to the participants prior to administering the questionnaires may have addressed this weakness.

Influential Factors

As discussed above, a large percentage of participants entered the maximal UMUX values for both the pre- and post-assessments. The pre-assessment was embedded on the first page of the training site, and the post-assessment was emailed to participants who finished the training materials. The instruction to complete the pre-assessment was delivered with the following language: "Begin by filling out the quick survey below." The four questions of the UMUX scale was prefaced with: "My expectations related to using iPads and iPhones for work." While the language was designed to encourage users to complete the pre-assessment by suggesting that it was "quick," the language may not have provided the appropriate context to inform the participants that the questionnaire was a pre-assessment.

Another potential factor that may have influenced the rollout of the field trial, and subsequently the data, is the local environment of work-from-home due to the COVID-19 pandemic, coupled with the participants's experiences transitioning from an office-based workflow to a mobile-based workflow. This training, and the associated equipment roll-out, is designed to address these experiences, but the disruptions to participants's work environments were still close-at-hand and may very well have been factors in the data collection process.

Further Investigation

Following this study, and prior to general deployment, some further investigation would likely be beneficial. First, a larger participant group would have produced more data, and may have surfaced a clearer picture of the overall effectiveness of the training program. Secondly,

some investigation would be beneficial into what distinguished the participants who reported lower UMUX scores on the post-assessment from the participants who reported higher scores on the post-assessment. Further understanding of these user's prior experiences with technology and their experiences engaging in the training materials would likely provide insight into the two groups's differing responses. For example, during the field trial, one participant, who had no previous experience with Apple devices, kept a record of their experiences getting their iPad set up. The text of this record is included in Appendix B. More feedback of this kind would provide more understanding into participant's experiences using the training.

Finally, there may have been fatigue on the part of the social workers who completed the training, as they were asked to train on their new devices on top of their daily duties in a short period of time. Workers may have been surprised by the extent of expectations the organization has regarding the use of these devices, including specific applications such as the COVID-19 health screening and the time tracking. The iPads and iPhones are consumer devices, and as mentioned in an earlier chapter, these devices are often preferential to workers. But now in the remote working environment, workers may have been not-so-pleasantly surprised to find the new requirements that accompanied their new devices.

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Appendix A: Curriculum

Part 1: From Box to Training (2 hour):

A. Employees receive an iPad with a keyboard case and/or an iPhone.

B. Employees receive a welcome email with directions to access unboxing instructions (a video link) and instructions for accessing the training as well as a device-use agreement. Videos have been created for iPad & iPhone unboxing videos.

A. Welcome Email Text:

During this season of remote and mobile work where we're mostly called to be away from our regular offices, The Next Door is supplying our employees with iPad and/or iPhones to support the valuable work that you are doing in our community. These devices will support your ability to communicate with co-workers and clients alike, even while working from home or in the community.

We recognize that not everyone is familiar with using iPhones and iPads for work, or with using Microsoft Office Apps (applications) on mobile devices. So we have created some training materials that will be delivered to all employees receiving devices. Access to this training is provided in the link at the bottom of this email. The training has several surveys and brief reviews (assessments) inserted, the results of which will be used to improve the quality of the training materials so that The Organization can be effective in providing support for staff members as they learn to combine iPads and iPhones into their workflow.

In the interest of full disclosure, the Apple devices being distributed are being managed by The Organization, and The Organization can push (send) Apps (applications) that employees need, or offer remote technology support for employees, using this management software. You should be aware that these are company devices and should only be used in ways that are consistent with The Organization's mission and values.

Guidelines for Staff provided with an iPad or iPhone for Professional Use

The iPad or iPhone has been provided to you to assist you in your job responsibilities. It is to be used primarily for professional purposes. The following guidelines and frequently asked questions are general in nature as not every possible scenario can be thoroughly described or known at this point in time.

Guidelines

1. You are responsible for keeping the device secure and in working condition. Take

every precaution to prevent damage

2. The devices is for your use as an employee. You are responsible for acting in the best interest of The Organization anytime you are using the device. All HIPAA/Protected Health Information (PHI) regulations apply.

3. If you misplace, lose, or have the iPad or iPhone stolen while in your possession, contact IT immediately. We are installing the "Find My iPhone" App on the devices and this can be used to find the exact location of the device, so long as it is on and has a wireless connectivity. If the device is stolen while in your possession outside of the office, you must file a police report and report it to your home owner insurance company for coverage.

Frequently Asked questions (FAQ)

1. Can I use the device while at home to view websites of non-work related content such as shopping, sports, etc…? Yes, however you are responsible for acting in the best interest of The Organization anytime you are using the device, including internet use from home.

2. May I purchase an App for work? Yes, have your supervisor make the request using the The Organization ticketing system and IT will send the App to your device.

3. Can I add my own email to the device? Yes, but also make sure you can access The Organization email as a priority.

4. What happens if I accidentally drop or break the device? We ask that you take all necessary precautions to prevent accidents, however accidents do happen. Submit a The Organization ticket to IT for handling, or call XXX-XXX-XXXX.

5. May I install my personal Kindle App or other Apps I use for personal use on my The Organization provided iPad or iPhone? We want you to be encouraged to become familiar with the device and learn to use it, so, yes. Keep in mind IT may need to remove all Apps for device maintenance at some point.

6. If I am using the device when not on company time and it breaks, is it covered? The same procedure applies as number 4 above. Submit a ticket or call XXX-XXX-XXXX.

7. How will I explain to the community if they ask how we can afford this technology? An iPad is far less expensive than a laptop. The iPad allows for mobile access to records, resources and contacts toward better efficiency and better outcomes.

Setting up your device

As soon as you receive your new iPad play this video as you unbox your new device: https://web.microsoftstream.com/video/76570c00-af75-49c8-8465-05a34701890c

Training

We have partnered with a talented volunteer from the company JAMF to assist with the creation of our new training website. Here you will find the information you need to use your new iPad or iPhone: https://nextdoorinc.sharepoint.com/sites/AppleDeviceTraining?e=1%3A7ccf24655fe645f381d649fe42919fc4

We are excited to hear from you as you start to experience your new devices and we hope you find them beneficial to the good work you do.

B. Video Transcript:

Video demonstrates taking the iPad out of the box, logging into an iPad, setting Wi-Fi password, navigating screen, setting up TouchID, and authenticating using Microsoft 365 apps. The video ends by directing users to the Sharepoint site called "Apple Device Training," where the training will continue.

Hello, let's get started on you new *Social Work Agency* iPad. Your iPad comes with a keyboard case, a usb-c to lightning charging cable, and a 20 watt charging brick. Your iPad's case has several helpful features It has a:

- Removable Keyboard with backlit keys
- iPad specific function keys
- Trackpad
- Kickstand for angling the iPad
- Apple Pencil loop

To get us started we're going to get your iPad connected to wifi, and log into your *Social Work Agency* Microsoft 365 account so we can access resources like your email, files, teams account, and more iPad and iPhone training developed specifically for you. When you first open your iPad you'll be asked to set a passcode, I've set this to 1234. You'll want to

choose a better one. We'll also setup the fingerprint reader shortly. Let's get connected to Wi-Fi. Your iPad is already configured to join the wi-fi network at the next door's offices. But we need to connect it to your home's network. From the home screen select the settings app by tapping it. Choose the Wi-Fi option. Select the wireless network you want to join, enter the password and tap the blue join button. Let's go back to the home screen. You can do this by pressing the home button or by swiping up from the bottom of the screen. Using two fingers to swipe from right to left, you can access more apps on the next screen, including the Office 365 apps.

Let's get your office 365 set up. Choose an office 365 app. I want to access the Next Door's iPad and iPhone training, so I am going to choose Sharepoint. When prompted, enter your *Social Work Agency* email address and password. This will enable all of the Office 365 apps, so you only have to do this once. In Sharepoint, search for the "Apple Device Training" to get started with the *Social Work Agency* specific device training for your iPad or iPhone.

Finally, let's set up the finger print reader. This will allow you to use your fingerprint instead of a passcode to access your iPad. It's both faster and more secure. From the home scree, Go back to settings by swiping up with three fingers on the trackpad and choosing settings. Once in Settings, choose "Touch ID and Passcode" The iPad will prompt you for your passcode, and then begin the process of recording your fingerprint. This data remains on the device, encrypted, and is never shared with anyone.

On Screen Text: Continue training on the Apple Device Training Sharepoint Page.

C. Employees, following instructions on video, set up Wi-Fi, Office 365, passcode, and Touch ID. Employees navigate to the Apple Device Training Site to begin the Pre-

Assessment and to continue the training curriculum.

D. The Pre-Assessment is based on the UMUX (Usability Metric for User Experience), which queries user's perceptions of a technology's usability and ease of use. the same assessment will be used at that end of the training.

Pre-assessment questionnaire (Seven-step Likert Scale):

Strongly Disagree	Somewhat Disagree	Disagree	Neutral	Agree	Somewhat Agree	Strongly Agree

1	iPads and iPhones capabilities meet my requirements for work
2	Using iPads and iPhones is a frustrating experience
3	iPads and iPhones are easy to use
4	I have to spend too much time correcting things when using iPads and iPhones

Employees will then follow the embedded links to the various parts of the training website.

Part 2: iPad and iPhone Training Website (5.75 hours)

Web Page Name	Screenshot Figure (s)	Time to Complete
Apple Device Training	1	15 minutes
iPad and iPhone Basics	2–6	75 minutes
Using the Built-in Apps	7–10	40 minutes
Using the COVID-19 Screening Tool	11	20 minutes
Using Office 365 on iPad and iPhone	12–15	75 minutes
Sign a PDF on your iPad or iPhone	16	20 minutes
Microsoft Office app for iPhone	17	30 minutes
Using Microsoft Teams	18–19	45 minutes
Using Notifications on iPad and iPhone	20–21	25 minutes
		Total Time on Website: 5 hrs, 45 mins

The time calculation on the training materials assume that users will take at least 30 percent longer to complete the training than the number of minutes represented by the training videos and the calculated reading time, to give users time to try out the skills on their own devices. The training website assumes asynchronous participation from each participant, and uses embedded surveys at the bottom of each page entitled "Before You Go" to track participant progress through the materials.

Part 3: Post Assessment (15 minutes)

Employees participating in the training field trial will complete a post assessment (the UMUX assessment posted above). This assessment will be delivered via email to those who have completed each section of the training website.

Email Language:

Hello,

First, thank you for spending time working through the Apple Device Training website. You were the very first wave of people to see it, and your feedback has been helpful as we prepare to go live across the organization.

Prior to beginning the iPad and iPhone training, you took a brief, 4 question survey about how you were feeling about using iPads and iPhones for work.

Now that you've had a chance to explore those devices more, because of the training, it would be very helpful if you would take that brief survey again. Having data about your attitudes toward using iPads prior to taking the training and again afterward will provide evidence for the effectiveness of the training.

Thank you,

Here's the ink to the form "Now that you've Completed the Training":

Post-assessment questionnaire (Seven-step Likert Scale):-1

Strongly Disagree	Somewhat Disagree	Disagree	Neutral	Agree	Somewhat Agree	Strongly Agree

1	iPads and iPhones capabilities meet my requirements for work
2	Using iPads and iPhones is a frustrating experience
3	iPads and iPhones are easy to use
4	I have to spend too much time correcting things when using iPads and iPhones

Figures:

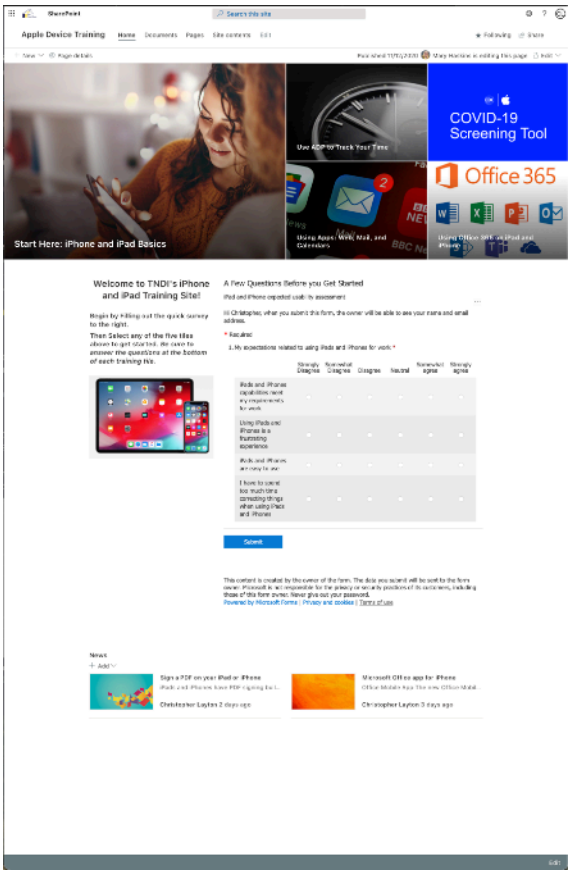


Figure 1

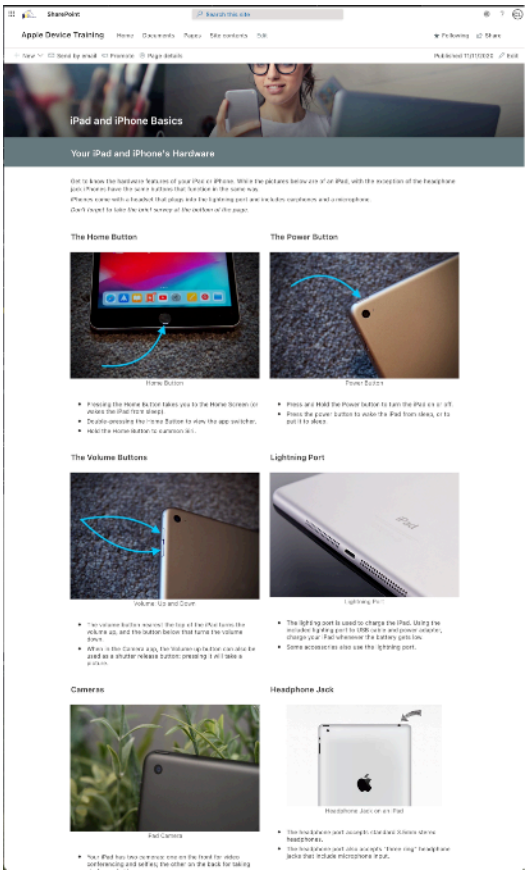


Figure 2

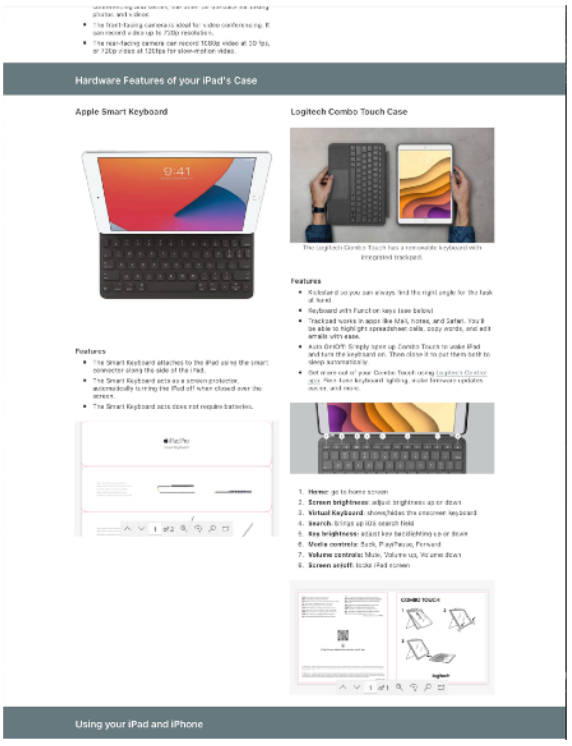


Figure 3

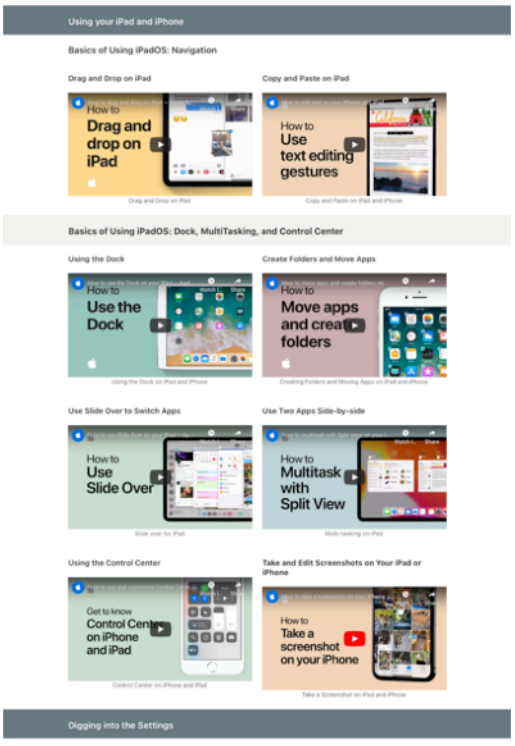


Figure 4

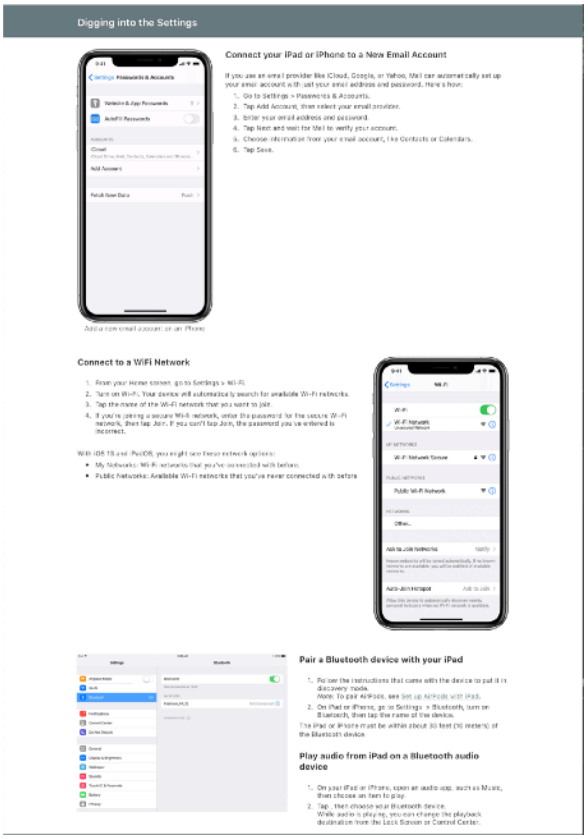


Figure 5

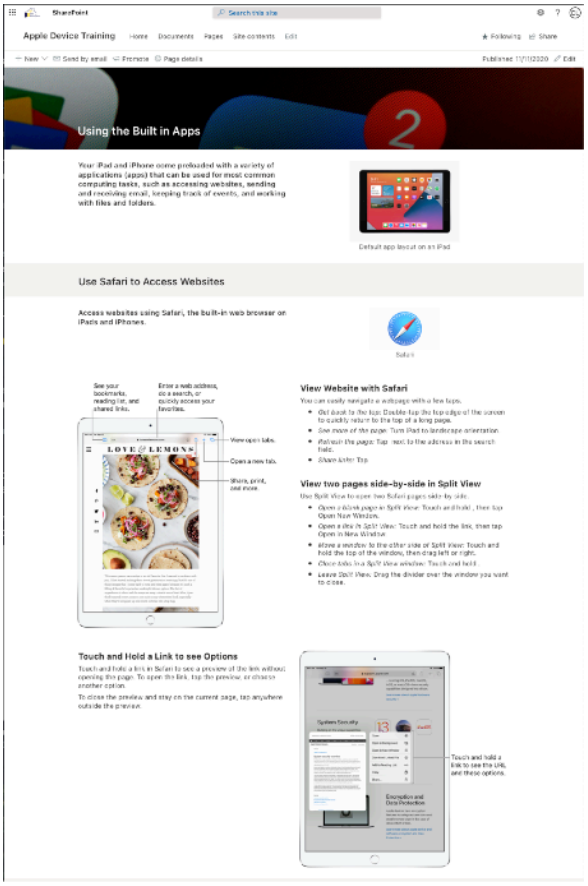
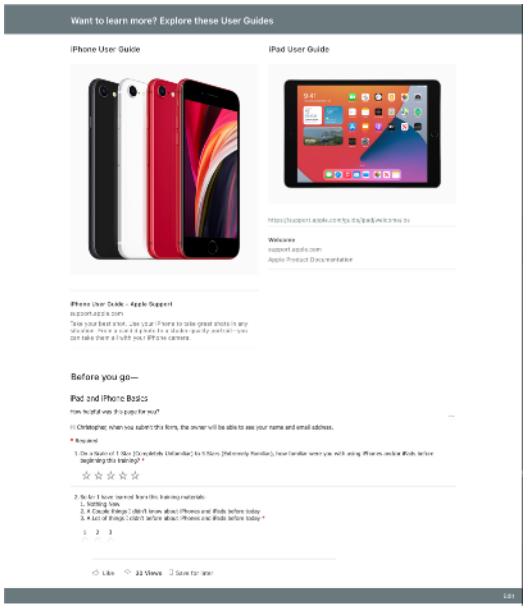


Figure 7



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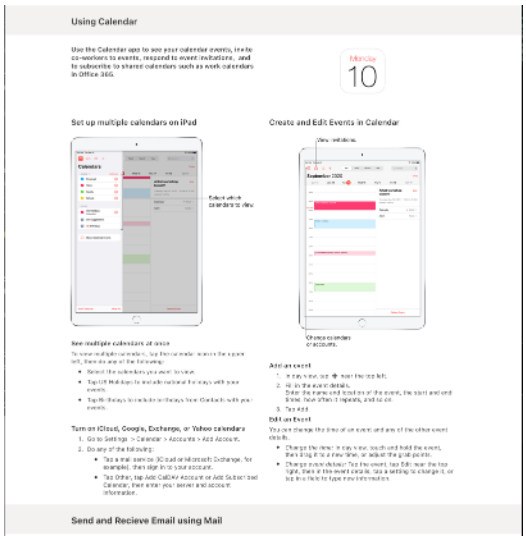

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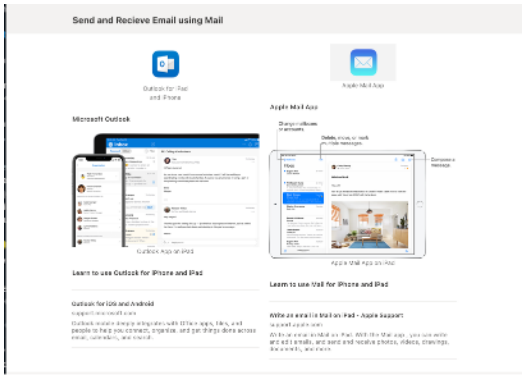

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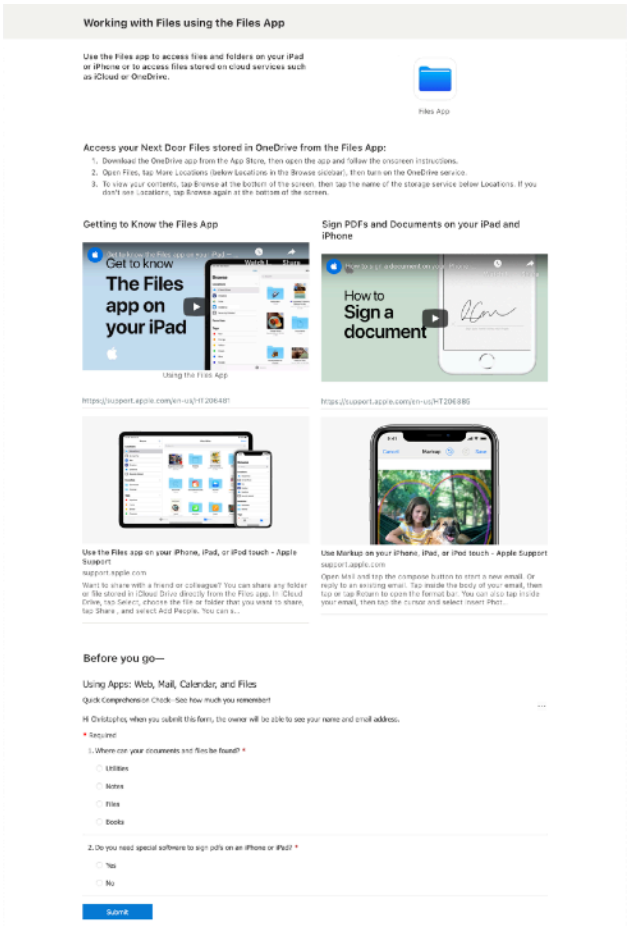

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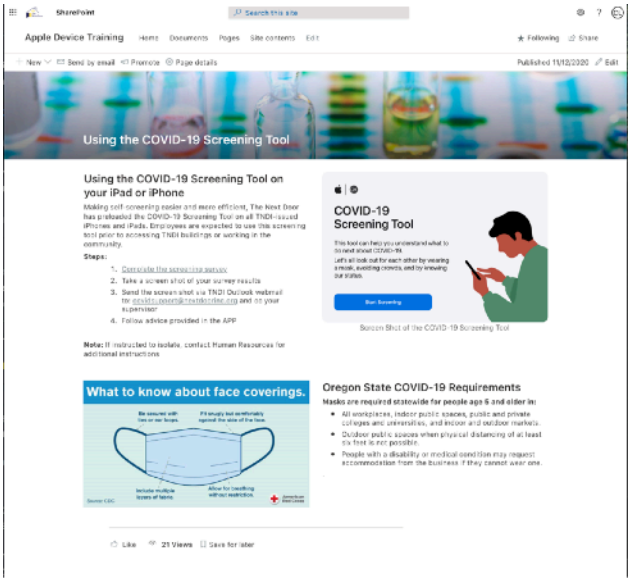
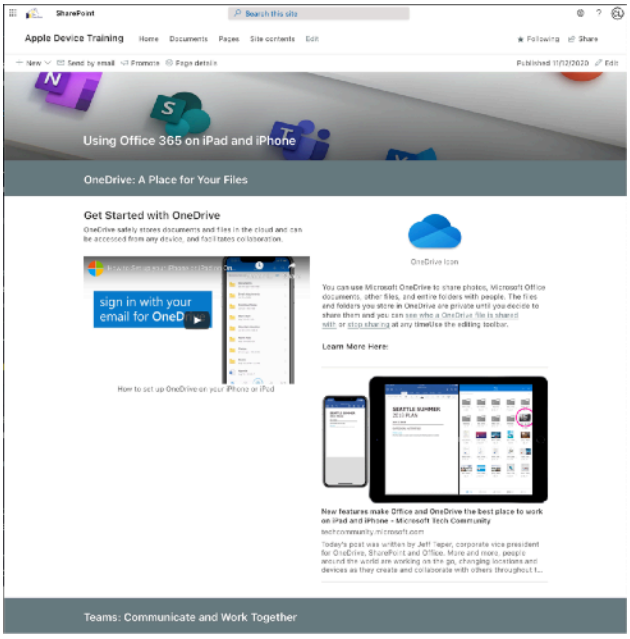


Figure 11

Figure 13



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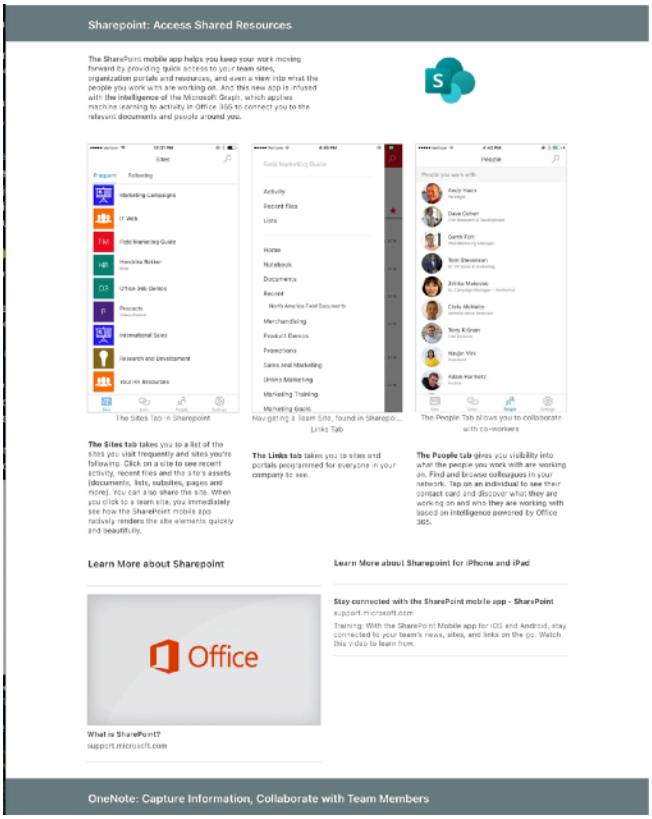
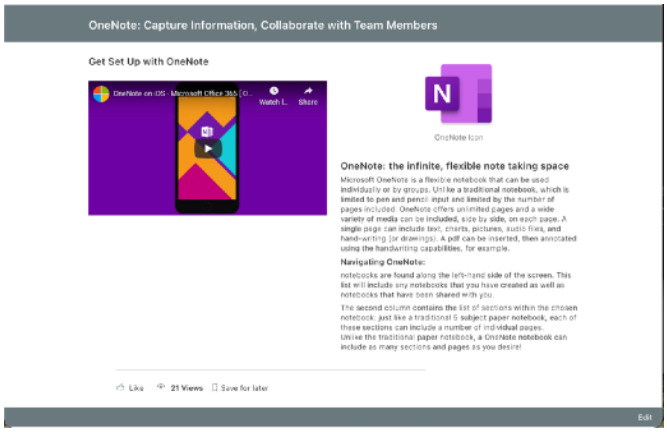


Figure 14

Figure 16



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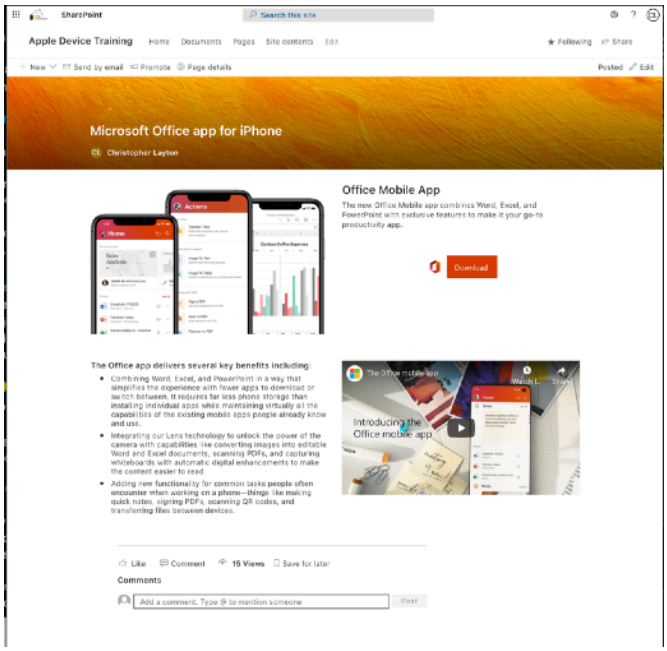

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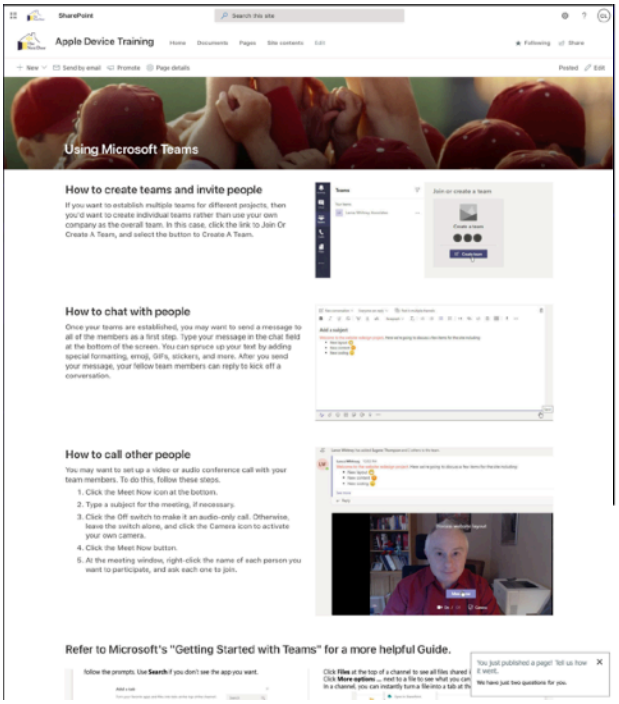


Figure 18

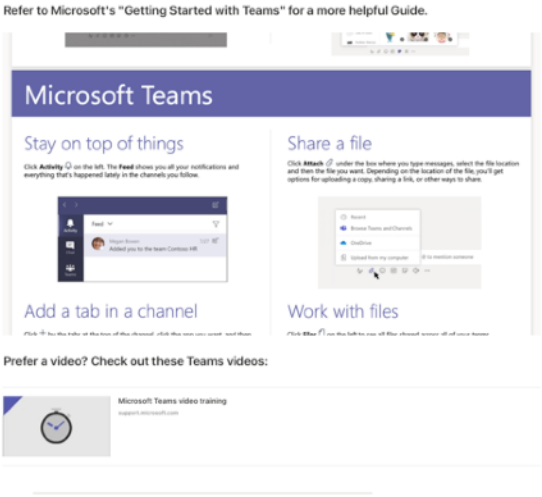
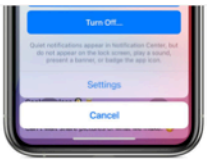


Figure 19

Figure 20



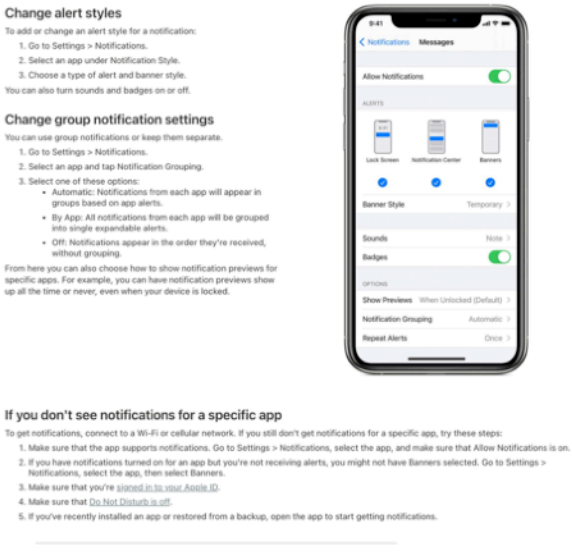


Figure 21

Appendix B: Data

Data Gathered from first participant, prior to study:

Here's a play-by-play of my brand new device experience (and don't worry – I am totally not actually frustrated!). Items that drew my attention away from an initially smooth experience are **highlighted and in bold**. This will help things be easier to find, since I know this email will be a bit of a "novel."

1. Al texts me at 8:45PM to tell me my devices are delivered in The Organization TD-Conference Room B. iPad is in it's box, has a fancy cover and keyboard/touchpad attachment. This is exciting!
2. When I first opened the iPad, it prompts for me to set a password. Initially, **my keyboard doesn't respond**, so I use the **touch keyboard** (which might be helpful to point out somewhere in training).
3. Home screen has oodles of Apps on Page 1
    a. a. FaceTime
    b. Calendar
    c. Clock
    d. Home
    e. Photos
    f. Camera
    g. Reminders
    h. Notes
    i. Voice memos
    j. Contacts
    k. Maps
    l. Find My
    m. App Store
    n. Books
    o. Podcasts
    p. TV
    q. News
    r. Stocks
    s. Measure
    t. Settings
    1. 4.

    There are the more useful apps on Page 2 a. Photo Booth
    b. Shortcuts
    c. iTunes Store
    d. Tips
    e. Logitech Control
    f. Outlook
    g. ADP Mobile
    h. OneNote
    i. Zoom
    j. Teams
    k. OneDrive
    l. CovidScreening
    m. PowerPoint
    n. Excel
    o. Word
    p. Stream
    q. Sharepoint! (afterwards)
1. 5. My dock has:
    a. iMessage (which, by the way, has a giant alert sign on it when I first get my device – it will draw attention for folks. It wants an AppleID)
    b. Safari
    c. iTunes
    d. Mail (not set up yet, by the way)
    e. Tips
6. Before accessing the Device Training, it would be helpful to have a "How to Login" function. **It took me a few tries with general swiping to realize that doesn't work that way**. I either have to click the button or swipe up from the *very bottom of the screen.* Is there a fingerprint option?
7. **I am not connected to my Wi-Fi, so I cannot access the internet and didn't initially know how to get there. I see the button to set up WiFi, but don't know how to open my options.** Looks like I had to hold the button down in order to access them and sign in. I realize now I can also go into the Settings app to set this up.

8. **How do I get out of a screen that comes up? For example, Safari. The browser opens. If I hit the home button, it takes me back. Is this app running in the background, or did I close it?** This was answered in the iPhone Basics! 12 **But now how do I get rid of what's running?** (I have to swipe up on them, but I didn't know that initially)
9. Apple Device Training
    a. Since **SharePoint was not set up on my device**, I went to the web browser for the Apple Device Training and am prompted to sign into my Microsoft365 Account.
    b. The Training Site looks very warm, friendly, welcoming and professional. **However, the pictures take up most of the screen and the scrollable data underneath isn't working quite right.** My device is in landscape mode, because I have a keyboard underneath it. **It doesn't allow me to really even scroll adequately to see/complete the fillable form.**
    c. When watching the Screenshot video, it's difficult to remember which device I have! But I got it!
    d. When looking at the **"Connect your iPad or iPhone to a New Email Account,"** I don't initially know how to go into Settings.
        i. If I select the "Settings" button on the home screen, it doesn't have a "Passwords & Account," – it only has a "Password" and that's a password storage function.
        ii. What I did instead was click on the Mail icon in my dock and it prompts for a username… Ok, this says that: "That Microsoft account doesn't exist…" – I shouldn't select "Outlook.com"?
        iii. I finally selected Microsoft Exchange on the Mail icon and went through the prompts – **This might be useful to have some training on if this is the best way to sync email accounts.**
    e. For the Wi-Fi Settings, it still has a picture of a phone (which might confuse some folks). **I was able to find the Wi-Fi in that "Settings" button on my home screen, but I had to intuit that.**
10. COVID-19 tool – My critique with this is that it's asking some really personal things that are not relevant to The Organization (like, are you pregnant, obese, have heart problems, etc.) and I worry that staff may be uncomfortable with it.

I will look more into the Using Apps: Web, Mail, and calendars; and the Using Office 365 on iPad and iPhone tomorrow

Pre-Assessment (UMUX):

Pre-assessment Data

User ID	iPads and iPhones capabilities meet my requirements for work	Using iPads and iPhones is a frustrating experience	iPads and iPhones are easy to use	I have to spend too much time correcting things when using iPads and iPhones
A	Strongly agree	Strongly Disagree	Strongly agree	Strongly Disagree
B	Somewhat Agree	Disagree	Somewhat Agree	Disagree

User ID	iPads and iPhones capabilities meet my requirements for work	Using iPads and iPhones is a frustrating experience	iPads and iPhones are easy to use	I have to spend too much time correcting things when using iPads and iPhones
C	Strongly agree	Strongly Disagree	Strongly agree	Strongly Disagree
D	Somewhat agree	Somewhat agree	Neutral	Somewhat agree
E	Strongly agree	Strongly Disagree	Strongly agree	Strongly Disagree
F	Somewhat agree	Strongly Disagree	Strongly agree	Disagree
G	Strongly agree	Strongly Disagree	Strongly agree	Strongly Disagree
H	Somewhat agree	Strongly Disagree	Strongly agree	Neutral

Post-Assessment (UMUX):

Post-assessment Data

User ID	iPads and iPhones capabilities meet my requirements for work	Using iPads and iPhones is a frustrating experience	iPads and iPhones are easy to use	I have to spend too much time correcting things when using iPads and iPhones
A	Strongly agree	Strongly Disagree	Strongly agree	Strongly Disagree
B	Strongly agree	Strongly Disagree	Strongly agree	Somewhat Disagree
C	Strongly agree	Strongly Disagree	Strongly agree	Strongly Disagree
D	Somewhat agree	Neutral	Somewhat agree	Disagree
E	Somewhat Disagree	Strongly Disagree	Strongly agree	Strongly Disagree
F	Somewhat agree	Somewhat Disagree	Somewhat agree	Neutral
G	Strongly agree	Strongly Disagree	Strongly agree	Strongly Disagree
H	Strongly agree	Strongly Disagree	Strongly agree	Strongly Disagree
I	Strongly agree	Strongly Disagree	Strongly agree	Strongly Disagree

Appendix C: Informed Consent

Informed Consent

Adult Participants

Western Governors University - Teachers College

M.Ed., Instructional Design

Christopher Layton

The Effect of Initial iPad and iPhone Training on Social Worker's Technology Acceptance

Introduction

Christopher Layton, a graduate student researcher in the Teachers College of Western Governors University, wishes to conduct a research study for the purpose of determining the effectiveness of using Initial iPad and iPhone training program for social workers for developing entry-level skills using the devices. The approval of Rochelle Layton, Operations Director at The Next Door to conduct this study was obtained prior to this announcement. By signing this consent form, you agree to participate in the study. All data collected will be reported as aggregated summaries. Individual names will not be used.

Description of the Project

This study will focus on measuring changes in attitudes toward using technology—specifically iPads and iPhones—at work, and on measuring changes in employee's attitudes toward and skills using iPads for tasks necessary for successful classroom use. The purpose of this study is to measure the change in attitude toward technology adoption as a consequence of a pre-deployment training program to develop entry-level skills—that is, skills an employee should know prior to using the iPad or iPhone at work. The training itself will be delivered as an e-learning module through Microsoft Sharepoint, and will take place asynchronously. A pre/posttest method will be used to compare attitudes toward adopting the devices before the training and again after the training. Both the pretest and the posttest will include sections that inquire about a student's attitudes toward using the iPads. The resulting data will be used to determine the effectiveness of the training and is not intended to measure individual student performance.

Benefits and Risks of the Study

Some participants may feel anxious about using an iPad or iPhone if they are inexperienced with this technology. Participants may experience normal test anxiety when completing the pre/posttest and survey. However, all anticipated risks to participation in this study are minimal and no greater than those which are normally encountered in normal daily work. The researcher will seek to minimize the anxiety risks by providing detailed information on using the technology. Participants will also be informed that their participation or nonparticipation in the activity will not influence their supervisor's perception of their job performance in any way, and that their results on pretest and the posttest will be used to measure the effectiveness of the training and not for measuring the employees's ability.

Probable participant benefits include skills related to using work-issued iPads and iPhones to complete future work. Participants will be informed that the training activities are intended to help them better utilize

their work-issued iPads for work. The study may help the researcher and other managers refine the training materials for future iPad and iPhone trainings.

Confidentiality

The data gathered from this research will be private and confidential. Your information will be assigned a code number. The list connecting your name to this code will not be shared with anybody outside the researcher, and the data collected will not be used to evaluate your individual performance: the data will only be used in aggregate to evaluate the effectiveness of the training program. When the study is completed and the data have been analyzed, this list will be destroyed. Your name will not be used in any report. Data will be reported in the aggregate.

Voluntary Participation

The iPad and iPhone training will be provided for all employees receiving a Next Door issued iPad or iPhone; as such, all receiving those devices are expected to participate fully in the training materials. Data will only be collected from those who sign the consent form.

Withdrawal

Participants may withdraw at any time from the data gathering portions of this training and will not be penalized for nonparticipation. To withdraw from the study, the participant must notify the researcher. Participants can request that their individual results be excluded from the final report. Employee's performance reviews will not be impacted in any way as a result of withdrawing from this study.

Questions, Rights and Complaints

Participants have a right to view the results of the study. If you have questions about this study, please contact me by calling 503.914.5559 or email me at Christopherl@nextdoorinc.org.

If you have questions about your rights, unresolved questions, or complaints pertaining to the study, contact the WGU IRB Chairperson by email: irb@wgu.edu.

Consent Statement

By signing this document, you agree to participate in the study and have had your study participation questions answered. You also acknowledge that you have received a copy of this form.

_____	_____
Site Authority Signature	Participant Signature
Title of Administrator Operations Director, The Next Door	Typed/Printed Name
Typed/Printed Name Rochelle Hale	Date
Date 11/12/2020	