



University of Kentucky
UKnowledge

Theses and Dissertations--Early Childhood,
Special Education, and Counselor Education

Early Childhood, Special Education, and
Counselor Education

2017

THE EFFECTS OF VIDEO ACTIVITY SCHEDULES ON LIFE SKILLS FOR INDIVIDUALS WITH MILD INTELLECTUAL DISABILITY

Kaylee A. Ortiz

University of Kentucky, kaor223@uky.edu

Digital Object Identifier: <https://doi.org/10.13023/ETD.2017.459>

[Right click to open a feedback form in a new tab to let us know how this document benefits you.](#)

Recommended Citation

Ortiz, Kaylee A., "THE EFFECTS OF VIDEO ACTIVITY SCHEDULES ON LIFE SKILLS FOR INDIVIDUALS WITH MILD INTELLECTUAL DISABILITY" (2017). *Theses and Dissertations--Early Childhood, Special Education, and Counselor Education*. 46.

https://uknowledge.uky.edu/edsrc_etds/46

This Master's Thesis is brought to you for free and open access by the Early Childhood, Special Education, and Counselor Education at UKnowledge. It has been accepted for inclusion in Theses and Dissertations--Early Childhood, Special Education, and Counselor Education by an authorized administrator of UKnowledge. For more information, please contact UKnowledge@lsv.uky.edu.

STUDENT AGREEMENT:

I represent that my thesis or dissertation and abstract are my original work. Proper attribution has been given to all outside sources. I understand that I am solely responsible for obtaining any needed copyright permissions. I have obtained needed written permission statement(s) from the owner(s) of each third-party copyrighted matter to be included in my work, allowing electronic distribution (if such use is not permitted by the fair use doctrine) which will be submitted to UKnowledge as Additional File.

I hereby grant to The University of Kentucky and its agents the irrevocable, non-exclusive, and royalty-free license to archive and make accessible my work in whole or in part in all forms of media, now or hereafter known. I agree that the document mentioned above may be made available immediately for worldwide access unless an embargo applies.

I retain all other ownership rights to the copyright of my work. I also retain the right to use in future works (such as articles or books) all or part of my work. I understand that I am free to register the copyright to my work.

REVIEW, APPROVAL AND ACCEPTANCE

The document mentioned above has been reviewed and accepted by the student's advisor, on behalf of the advisory committee, and by the Director of Graduate Studies (DGS), on behalf of the program; we verify that this is the final, approved version of the student's thesis including all changes required by the advisory committee. The undersigned agree to abide by the statements above.

Kaylee A. Ortiz, Student

Dr. Amy Spriggs, Major Professor

Dr. Melinda Ault, Director of Graduate Studies

THE EFFECTS OF VIDEO ACTIVITY SCHEDULES ON
LIFE SKILLS FOR INDIVIDUALS WITH
MILD INTELLECTUAL DISABILITY

THESIS

A thesis submitted in partial fulfillment of the
requirements for the degree of Master of Science in the
College of Education
at the University of Kentucky

By

Kaylee A. Ortiz

Lexington, Kentucky

Co- Directors: Dr. Amy Spriggs, Professor of Special Education
and Dr. Sally Shepley, Professor of Special Education

Lexington, Kentucky

2017

Copyright© Kaylee A. Ortiz 2017

ABSTRACT OF THESIS

THE EFFECTS OF VIDEO ACTIVITY SCHEDULES ON LIFE SKILLS FOR INDIVIDUALS WITH MILD INTELLECTUAL DISABILITY

This study used a multiple probe across settings design to evaluate the effects of video activity schedules (VidAS) on the acquisition of life skills in various settings within the home. In a technology training phase, participants were taught how to navigate a mobile application and use the pause and play feature of the video using a system of least prompts. In baseline, participants were given a task direction to complete the tasks within each setting with access to a static picture schedule. During intervention, participant task completion was evaluated when self-instructing with the use of VidAS in each setting. One participant's settings consisted of the living room, kitchen, and outdoor schedule, the other participant's settings consisted of a checkbook, kitchen, and laundry schedule. One participant learned to self-instruct using the mobile technology and independently complete and navigate between and within tasks within each schedule.

KEYWORDS: Video activity schedule, independent living, self-instruction, life skills, intellectual disability

Kaylee A. Ortiz

November 17, 2017

THE EFFECTS OF VIDEO ACTIVITY SCHEDULES ON
LIFE SKILLS FOR INDIVIDUALS WITH
MILD INTELLECTUAL DISABILITY

By

Kaylee A. Ortiz

Dr. Amy Spriggs

Co-Director of Thesis

Dr. Sally Shepley

Co-Director of Thesis

Dr. Melinda Ault

Director of Graduate Studies

November 17, 2017

TABLE OF CONTENTS

LIST OF TABLES.....	iv
LIST OF FIGURES.....	v
Section 1: Introduction.....	1
Section 2: Research Question.....	7
Section 3: Methods.....	8
Participants.....	8
Table 1: Participant Information.....	9
Settings and Tasks.....	10
Materials/Equipment.....	10
Data Collection.....	11
Experimental Design.....	15
Screening.....	16
Pre-requisite Technology Training.....	16
Procedures.....	17
General procedures.....	17
Baseline procedures.....	18
VidAS procedures.....	23
Maintenance procedures.....	24
Generalization procedures.....	24
Interobserver Agreement and Procedural Fidelity.....	24
Table 2: Procedural Fidelity (Chloe).....	26
Table 3: Procedural Fidelity (Cody).....	27
Section 4: Results.....	28
Effectiveness of VidAS.....	28
Participant Procedural Fidelity.....	28
Maintenance Data.....	29
Generalization Data.....	29
Section 5: Discussion.....	30
Limitations.....	31
Table 4: Chloe Kitchen Schedule Task Analysis.....	33
Table 5: Chloe Outdoor Schedule Task Analysis.....	35
Table 6: Chloe Living Room Schedule Task Analysis.....	36
Table 7: Cody Laundry Schedule Task Analysis.....	38
Table 8: Cody Office Schedule Task Analysis.....	39
Table 9: Cody Kitchen Schedule Task Analysis.....	40
Implications for Practitioners.....	42
Conclusions.....	43
Appendix.....	44
References.....	50
Vita.....	54

LIST OF TABLES

Table 1, Participant Information.....	9
Table 2, Procedural Fidelity (Chloe).....	26
Table 3, Procedural Fidelity (Cody).....	27
Table 4, Chloe Kitchen Schedule Task Analysis.....	33
Table 5, Chloe Outdoor Schedule Task Analysis.....	35
Table 6, Chloe Living Room Schedule Task Analysis.....	36
Table 7, Cody Laundry Schedule Task Analysis.....	38
Table 8, Cody Office Schedule Task Analysis.....	39
Table 9, Cody Kitchen Schedule Task Analysis.....	40

LIST OF FIGURES

Figure 1, Performance Data.....	13
Figure 2, Performance Data.....	14
Figure 3, Laundry Static Picture Schedule.....	20
Figure 4, Office Static Picture Schedule.....	21
Figure 5, Kitchen Static Picture Schedule.....	22

Section 1: Introduction

Educational services are available for individuals with disabilities from the ages of 3 to 21 years (Individuals with Disabilities Education Act, 2004). Upon graduation, however, many individuals with disabilities and their families are left to find their own resources to support the transition into adulthood (Duggan & Linehan, 2013). Adults with disabilities often only have a small group of people, typically consisting of family members and service providers, who are prepared and trained to provide care and deliver services geared toward their independent needs (Duggan & Linehan, 2013). According to a questionnaire conducted by Shaw, Cartwright, and Craig (2011), individuals with intellectual disability (ID) reported feeling they did not possess the skills needed for independent living. Lacking such critical skills becomes a bigger issue when the family is no longer able to provide care. In another survey, Blustein, Carter, and McMillan (2016) asked individuals with ID and developmental disabilities about resources available to them for the transition into adulthood. They expressed that their desired outcomes in life seem unachievable.

While in high school, a primary objective of special education is to equip individuals with disabilities with the skills needed to perform tasks necessary to reach transition outcome goals independently and fluently upon graduation. Outcome areas include education, employment, and independent living. Related to independent living outcomes, individuals with disabilities rated personal safety, assistance with household skills, assistance with medications, assistance with daily living, and fire safety skills as the top barriers that keep them from living on their own (Reed et al., 2014). Soenen, Berckelaer-Onnes, and Scholte (2015) asked young adults with ID if they were happy

with the support they received in their living and employment environment. Participants expressed that they would have liked further supports, particularly in the daily living skills category. In a study concerning housing and support needs for individuals with disabilities, those living within their family home did not have the independent living skills to care for themselves when the family could no longer support them (Shaw et al., 2011). Since caregivers often do not outlive their children, it is imperative that supports are put in place to facilitate independence in the home setting (Duggan & Linehan, 2013).

Supports used by individuals with disabilities can be viewed as assistive technology, in that the learner relies on the support to access their environments and, if provided in the right way, could be considered supports that do not need to be faded (Ayres, Shepley, & Douglas, 2016). Individuals with disabilities will need these additional supports to be successful in their transition into adulthood (DiGennaro et al., 2014). Assistive technology can come in various forms, and is defined as “any item, piece of equipment, or product system, whether acquired commercially, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities” (Individuals with Disabilities Education Act, 2004, section 300.5).

One example of assistive technology that is used to support individuals in independent living is visual supports. A visual support can be classified as any picture, item, or symbol presented visually for communication. Visual supports can be low-tech, requiring little to no technology (e.g., visual activity schedules; Meadan, Ostrosky, Triplett, Michna, & Fetting, 2011). Additionally, visual supports can be high-tech,

involving the use of technology in the form of computer or mobile technology (e.g., video based instruction, video modeling, video activity schedules [VidAS]).

Visual activity schedules are pictures, objects, or words that represent a sequence of events. Visual activity schedules have successfully been used to increase independence during transitions for students with autism spectrum disorder (ASD; Banda, Grimmer & Hart, 2009; Duttlinger et al., 2012; Pierce, Spriggs, Gast & Luscre, 2013; Whatley, Gast & Hammond, 2009). Visual activity schedules have been effective in increasing independent transition between activities for individuals with ID and, when combined with video models, increasing independence for students with ASD within and between novel tasks (Spriggs, Knight & Sherrow, 2015).

Video-based instruction is a high-tech form of visual support that has been used with individuals with ID to teach a wide array of skills such as community shopping skills (e.g., Burckley, Tincani, & Fisher, 2015), vocational skills (e.g., Mechling & Ortega-Hurndon, 2007; Smith, Shepley, Alexander, Davis & Ayres, 2015), daily living (e.g., Shepley, Spriggs, Samudre, & Elliot, 2017), sociodramatic toy play (e.g., Dauphin, Kinney, & Stromer, 2014), and game play (Spriggs, Gast, & Knight, 2016). Video based instruction allows an individual to see a real-life environment through a video representation while the viewer engages in the behavior viewed (Goo, Therrien, & Hua, 2016).

Video modeling is a specific type of video based instruction that can lead to an increase in independence for individuals with ID due to the decrease of in-person adult prompts required to complete a novel or unmastered task. This technology allows the

participant to view a model demonstration that is consistent each time it is viewed, therefore avoiding the possibility of incorrect demonstrations of steps during in vivo instruction (Sherrow, Spriggs, & Knight, 2016). Video modeling has been effective in teaching individuals with ASD and ID to play video games (Sherrow et al., 2016; Spriggs et al., 2016), fine and gross motor skills within multi-step tasks in adults with ID (Mechling et al., 2012), vocational skills to individuals with ASD (Allen, Wallace, Renes, Bowen & Burke, 2010), meal preparation for individuals with Down syndrome (e.g., AL-Salahat, 2016), and functional living skills such as accessing the community, employment skills, self-help skills, and house chores (e.g., Hong et al., 2016).

Ease of implementing video modeling has increased in the last 20 years due to the availability of portable and affordable mobile technology (Mechling, 2007). Mobile technology allows for individuals with ID to use devices in the home, school, or community settings (Smith et al., 2015). Using mobile technology to teach skills relieves social stigma that could be associated with other means of visual schedules (e.g., laminated strips with Velcro adorned pictures) due to the technology being commonplace with typically developing peers within the environment. In addition, portable devices could be naturally reinforcing to individuals with disabilities while also allowing the individual with disabilities to use the support as needed without an adult present (Spriggs et al., 2015). Mobile technology instruction allows instructors to deliver tailored individualized instruction to individuals based on their specific needs in any environment (Ayres, Mechling, & Sansosti, 2013).

Since the technology is portable and easily navigated by a single user, an additional instructor is not needed to control the device, thus allowing the individual with

ID to self-instruct. Currently, impairments that individuals with disabilities may experience could lead to prompt dependence and adult reliance to complete skills and remain on-task (Spriggs et al., 2015). To eliminate the reliance on an additional adult, video modeling has been used as a self-instructional tool with individuals with ID and ASD to learn functional skills (Smith et al., 2015). Self-instruction involves an individual prompting themselves using available materials instead of relying on teacher or instructor prompts (Browder & Shapiro, 1985). According to a review of the literature, self-instruction via video on a handheld device has been used to teach individuals with ID to make food in a microwave and stove, make a copy, use a washing machine, clean a bathroom, fill out a vending machine order book, and take inventory (Smith, Shepley, Alexander & Ayres, 2015). In order to increase independence from instructor supports, individuals with disabilities need to be able to transition within and between tasks.

Visual activity schedules allow individuals with ID to transition between activities (Duttlinger et al., 2012), and self-instruct using a video model (Browder & Shapiro, 1985; Smith et al., 2015; Spriggs et al., 2015). Combining visual activity schedules and video modeling, generating a VidAS (video activity schedule), allows the individual to fully self-instruct by transitioning within and between activities, therefore decreasing reliance on instructor support. The first study to combine visual activity schedules and video modeling focused on transitions between novel activities within the high school classroom for individuals with ASD (Spriggs et al., 2015). This study investigated independent transitions within and between activities using VidAS. Although two students required video chunking, which consisted of breaking each video into smaller segments, the results indicated that when VidAS was introduced, individuals could

transition independently within and between novel tasks. Two participants reached mastery with VidAS within 18 or fewer sessions. Students also generalized these skills when presented with a static visual activity schedule and novel task examples when the video model was removed. When asked, all parents agreed that VidAS played an important role in instruction, and three of four reported that their children were more interested in using mobile technology after the completion of the study. Three of four participants also reported that they enjoyed using the iPad and they enjoyed using the iPad to learn new skills. VidAS have been shown to be effective in research as separate independent variables.

Shepley et al. (2017) replicated the effects of VidAS, and also coined the abbreviation, on acquisition of novel skills by increasing daily living independence in middle school students with ID. Differing from the Spriggs et al. (2014) study, the Shepley et al. study included initiating to the device and embedded pauses between steps. Participants were successful in using VidAS to self-instruct setting a table, making a snack, and making punch independently. The current study was a replication of Shepley et al. with a purpose to strengthen the external validity of VidAS research with learners with ID. Although video modeling and visual activity schedules are evidence based practices, VidAS needs further replication to strengthen the validity of its use with individuals with ID in various settings. VidAS are effective within the school setting among individuals with ID with and without ASD, though there is a lack of research using VidAS in the home setting. The purpose of this study was to evaluate the effects of VidAS on the acquisition of life skills for individuals with mild ID in their home setting.

Section 2: Research Question

The research question asks the following: Is there a functional relation between video activity schedules and an increase in the acquisition of life skills in persons with mild intellectual disability in the home setting?

Section 3: Methods

Participants

Two Caucasian individuals with Down Syndrome and mild ID, 18 and 19 years old, participated in this study (see Table 1). Chloe, had graduated from high school and had mild ID. Chloe was served in the learning and behavior disabilities (LBD) classroom during her school years, although she also attended classes in the general education setting for 40-80% of her school day. Cody was currently enrolled in high school, and was served in the moderate to severe (MSD) classroom. Both participants had difficulty completing skills independently within the home setting. Cody and Chloe did not have a prior history of using a visual activity schedule or mobile technology within the school setting. Inclusion criteria to participate in the study included (a) observed fine motor skills to complete tasks and manipulate the device, (b) observed ability to imitate a minimum of three steps from a video model, (c) reported adequate vision and hearing based on passing their most recent hearing and vision screenings, (d) parental consent, and (e) participant assent.

The investigator was the primary data collector and implemented all procedures. She held a bachelor's degree in special education, specifically LBD, and was working toward a master's in applied behavior analysis. Master's students in an applied behavior analysis graduate program collected reliability data.

Table 1: Participant information

Participant	Age	Sex	Race	Diagnosis	IQ score	Adaptive Behavior Score	Related Services/ Needs
Cody	18	Male	Caucasian	MMD	Not available		
Chloe	19	Female	Caucasian	MMD	Not available	79, 8 th percentile	Math, reading, writing, vocational resource; speech/ language therapy

Settings and Tasks

Sessions took place in the participants' home in a 1:1 instructional arrangement. Individual sessions took place in various rooms within the home depending on the targeted task. The tasks were selected based on an interview with each participant and their parents concerning skills they found important to perform within the home. Each task analysis was written by the investigator with parental input. Chloe's settings consisted of kitchen, outdoor, and living room. In the kitchen, Chloe was instructed to make a smoothie, cook biscuits, and wash a pan. Outdoors, she was to pull weeds, water ferns, and sweep the porch. In the living room, Chloe dusted the tables, swept the floor, and vacuumed the carpet. Cody's settings consisted of kitchen, office, and laundry. In the kitchen, Cody was instructed to gather materials to make eggs, cook the eggs, and soak the pan. During his office schedule, he was to gather the checkbook items, balance the checkbook, and put the items in the original location. Cody's laundry schedule consisted of sorting clothes, washing clothes, and drying clothes.

Materials/Equipment

Participants used an Apple iPad to access the VidAS; Chloe received instruction on an iPad Mini and Cody received instruction on an iPad Pro. The iPad was loaded with an application, *My Pictures Talk* (Grembe, Inc; \$2.99 at the start of the study) which contained investigator made VidAS (see Figure 3-5). The iPad was placed at a predetermined location in each participants' home, which was the kitchen counter for Cody and the kitchen table for Chloe. The application home page consisted of pictures of three environments (e.g., kitchen, living room, outside) and within each environment there were three tasks specific to that environment (e.g., cook biscuits, make smoothie,

wash pan). Materials to complete each task were available for use within each participants' home, such as a blender, knife, paper towel, and sink needed to make a smoothie. Each environment was represented by a picture of that environment and each task within an environment was represented by a picture of the end product. Each task was videoed in a spectator and perspective point of view using the iPad, videos were edited using iMovie. Cody's mother was the actor within two video models, whereas the main investigator was the video model for the remaining videos. The videos ranged from 80 s to 350 s for Chloe and 39 s to 387 s for Cody. Pause signs were inserted every two to four steps that formed a logical chain of behaviors, along with a verbal prompt for participant to pause the video. The pause sign appeared for 5 s. In baseline, *My Pictures Talk* contained static visual activity schedules of each environment, consisting of a picture representing the end result of each task and the corresponding verbal task direction. The videos were then loaded onto the *My Pictures Talk* application. During intervention sessions, the *My Pictures Talk* application was loaded with VidAS, consisting of three videos of novel skills within each of the three environments.

Data Collection

Prior to the study, a task analysis was created with all task steps. The dependent variable was the percentage of task steps in the task analysis the participant performed independently (see steps in Tables 2-7). Data were collected on the number of independently completed steps within the task analysis. A correct response was recorded when the participant initiated the step within 3 s of the task direction and completed the step correctly within 20 s. The 20 s duration was determined by the investigator completing each step in the task analysis and using the longest step to determine the

length unless otherwise stated in the task analysis (e.g., hold the pulse button for 45 to 90 s). An error was recorded when the participant did not initiate the step within 3 s of the task direction, did not complete the step within 20 s, or completed a critical step out of sequence. Steps did not need to occur within a specific order, as long as the end product was equivalent (e.g., adding the strawberries and banana do not need to be in order according to the task analysis, though the strawberries and banana must be added before putting the top on the blender). The total percentage of correct responses, according to the task analyses, was calculated by dividing the total correct responses by the total number of steps, and multiplying by 100. The investigator and reliability data collector stood within one meter of the participant when competing tasks to ensure accurate data collection. Data collection on navigation steps, including the pause and play features were collected. Data on navigation steps were not calculated into the percent correct. Data were collected for information purposes and to collect participant fidelity on the technology navigation, and are represented by grey bars (see Figure 1 and 2).

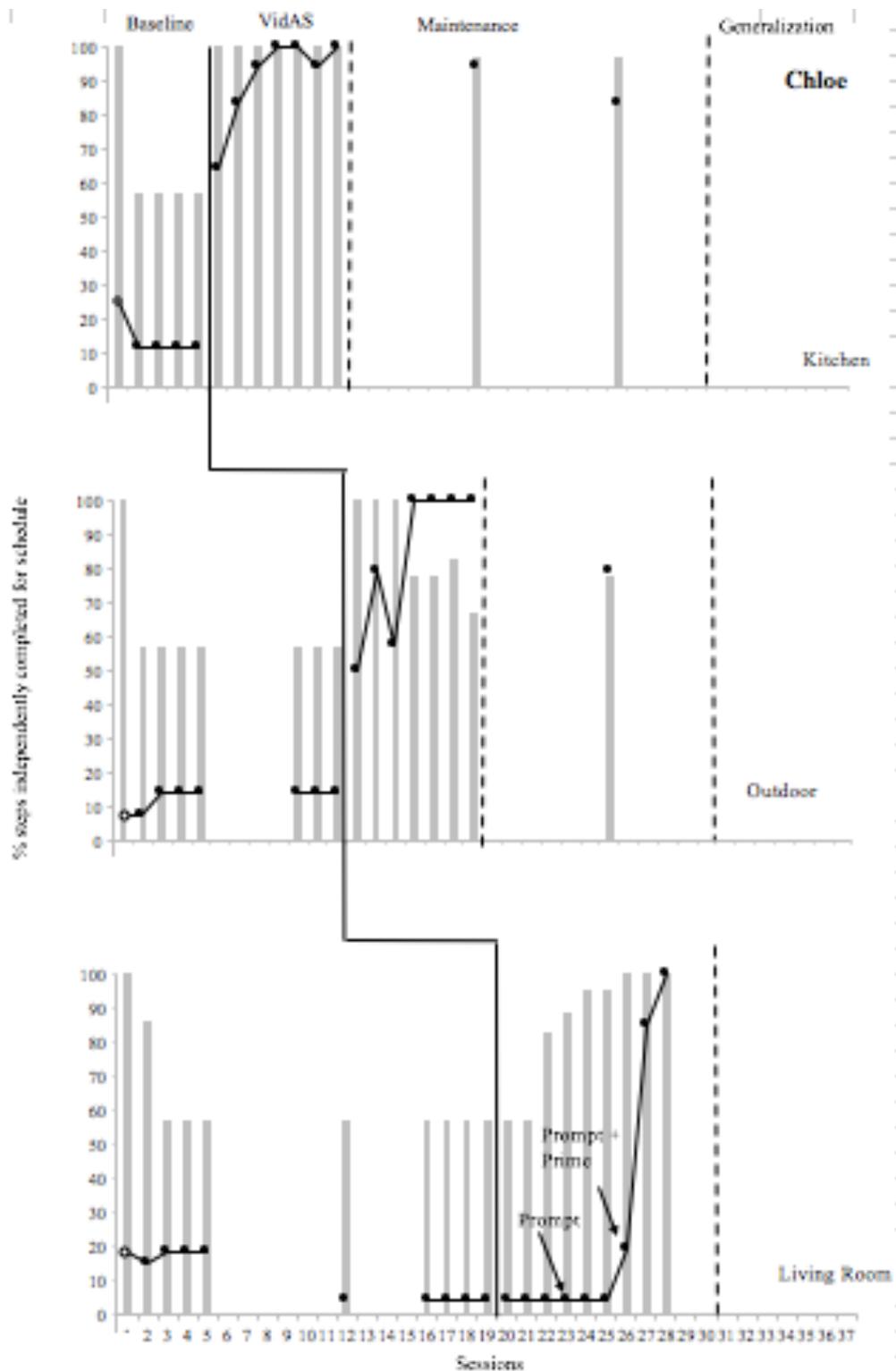


Figure 1: Performance data across settings. Percent correct navigation steps are represented by gray bars. Open squares represent generalization to a static picture schedule. Open circles represent multiple opportunity probes.

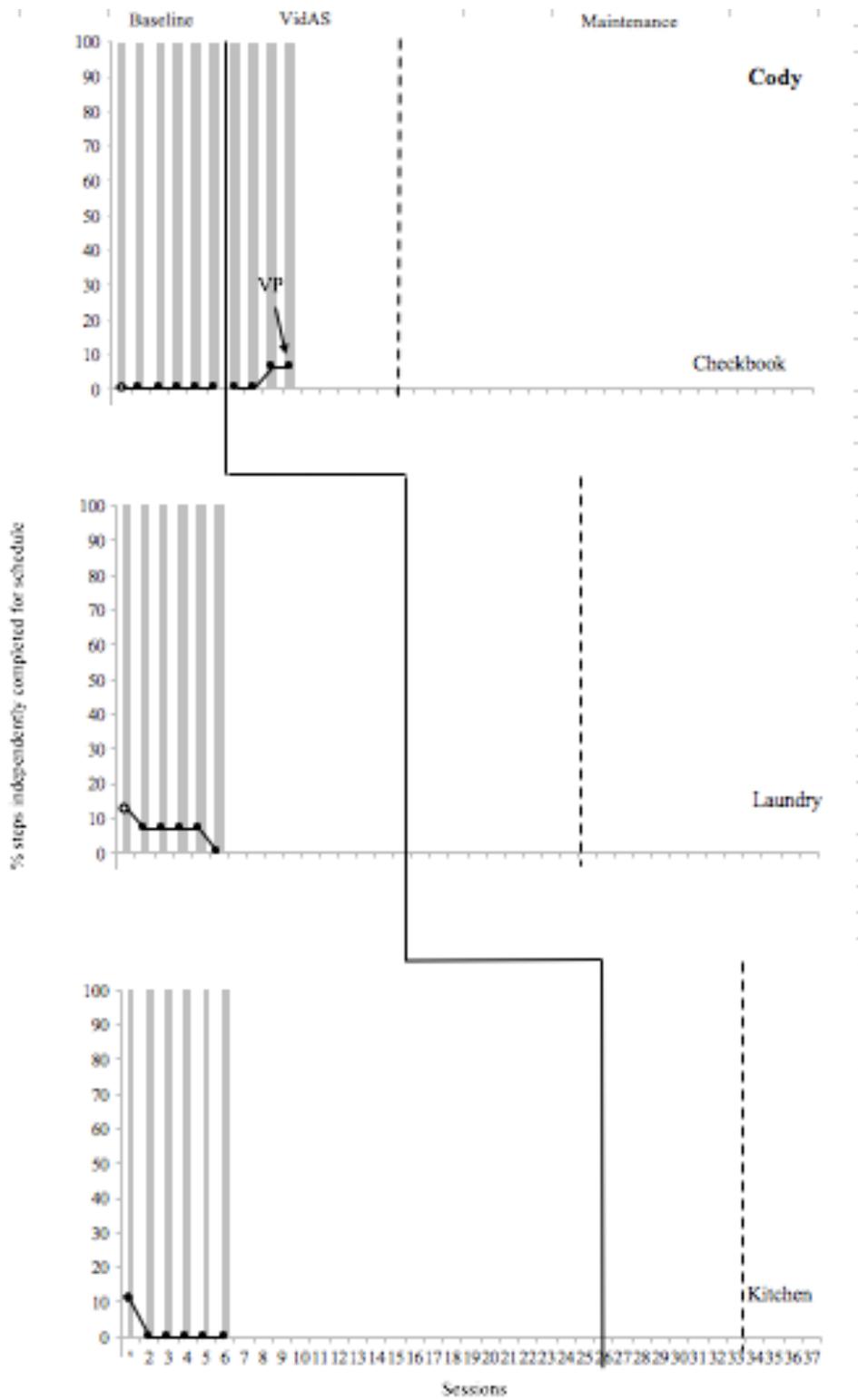


Figure 2: Performance data across settings. Percent correct navigation steps are represented by gray bars. Open squares represent generalization to a static picture schedule. Open circles represent multiple opportunity probes.

Experimental Design

A single case multiple probe across behaviors design (Gast & Ledford, 2014) was used to evaluate the effects of VidAS on the acquisition of life skills in various settings within the home. Baseline probes were collected for a minimum of five data points or until data stabilized in each tier (Kratochwill et al., 2010). Once data were stable, intervention was introduced in the first setting, which included access to the VidAS containing the three tasks for that setting. Probe sessions in subsequent tiers were conducted every five to seven sessions. Once student responding in the first setting reached criterion in the VidAS condition, subsequent tiers were probed. If data remained at baseline levels, VidAS was introduced in the subsequent tier. To reach criterion in a single setting, participants needed to complete each task within that environment with 100% independent correct responding for three sessions with at least two of those sessions being consecutive. A functional relation was demonstrated when the dependent variable systematically changed due to the introduction of the independent variable (Gast & Ledford, 2014). This study controlled for attrition due to the study containing two participants, in case a participant was unable to complete the study or dropped out. To control for the threat to history, investigator loaded iPads were used so the application was not available when the investigator was not present. The investigator made it clear to the family and participants that the participant was not to use the *My Pictures Talk* application outside of the study until the study was completed. To control for threats to history, maturation, and testing, the introduction of VidAS was staggered across tiers, and baseline probe data were taken directly before the introduction of VidAS. The parent and participant interview as well as technology training occurred before the baseline

condition, which controlled for adaptation. Procedural fidelity was controlled for by having fidelity checks in 5-20% of sessions across conditions and participants. Testing may have a facilitative effect during multiple opportunity probes since they could produce a facilitative testing threat, and single opportunity probes could lead to an inhibitive testing effect (Alexander, Ayres, Shepley, Smith, & Ledford, 2017; Alexander, Smith, Mataras, Shepley, & Ayres, 2014), therefore one multiple opportunity probe was conducted during the first baseline session and all subsequent sessions were single opportunity probes (Cooper, Heron, & Heward, 2007).

Screening

Participants underwent a screening process to ensure they were not able to perform steps within the task analysis within each setting. The investigator presented three pictures of environments via a picture to the participants to ensure they could receptively identify corresponding environments. The investigator verbally instructed each participant to complete each task and recorded the steps they were able to perform. The investigator then divided the number of steps within each task analysis by the number of correctly performed steps and multiplied the number by 100 to determine the percentage of correctly performed steps. Tasks with less than 20% of steps performed correctly were selected for target tasks in the study.

Pre-requisite Technology Training

Technology training was conducted prior to baseline procedures. The purpose of technology training was to teach the participants how to navigate the iPad, navigate the application, select the correct environment according to the task direction, play the

videos, imitate the demonstrated behavior in the video model (e.g., putting markers in a specific order according to the order within the video), and pause the videos when the pause sign displayed on the screen (see Appendix). Technology training consisted of three schedules with three embedded tasks in each schedule on the *My Pictures Talk* application on the iPad. The application consisted of three schedules in a random order with three arbitrary task videos unrelated to the target tasks in the study. Arbitrary tasks with an unpredictable sequence of steps were used to ensure the participant needed to self-instruct by viewing the video model. At the beginning of each session, the investigator provided a verbal prompt (e.g. “Check your office schedule”) as the discriminative stimulus for the student to pick up the iPad. The investigator waited 3 s for the participant to initiate navigation and task steps. The investigator used a system of least prompts, specifically a verbal plus gestural prompt followed by a physical prompt, for each step of technology training if the participant did not initiate a correct response, initiated a step out of sequence, or did not respond (see Appendix). Technology training continued until the participant reached mastery criterion including 100% independent performance of task analysis steps, which included both navigation and task completion steps for three sessions with at least two being consecutive sessions.

Procedures

General procedures. Sessions were conducted 3 to 5 days a week and occurred once or twice each day for Chloe. Sessions were conducted 1 to 2 days a week and occurred weekly or every 2 weeks for Cody. In order for two sessions to occur in one day, at least 1 hour was required between sessions. Sessions took place at various hours of the day, depending on the participants’ schedule. Prior to beginning instruction, the

appropriate pictures or videos were loaded in the *My Pictures Talk* application according to the condition. The investigator conducted all sessions.

Prior to each session in baseline, intervention, and maintenance, the investigator placed the iPad in the iPad charging location. The investigator then stated a task direction such as, “Check your kitchen schedule.” After the task direction, participants had 3 s to initiate each step and 20 s to complete each step. The investigator provided general praise statements on a VR:3 schedule for correct responding of task steps in the task analysis and at the end of each task.

Baseline procedures. Baseline sessions were conducted across each setting for a minimum of five sessions or until data were stable. During baseline sessions, the *My Pictures Talk* application consisted of three settings, three tasks within each setting, which were represented by a picture of the end product that linked to a verbal task direction when selected (e.g., Figure 3-5). When selecting the correct task according to the task direction, a picture appeared with a verbal task direction that repeated each time the participant pressed the play button. Sessions were conducted to evaluate participants’ ability to complete steps in the task analysis in each setting without access to VidAS. The first session of baseline used a multiple-opportunity probe to assess the participants’ performance (Cooper et al., 2007). During the multiple-opportunity probe, if the student did not initiate a step within 3 s, complete a step within 20 s, or completed a step incorrectly, the investigator asked the participant to turn away and discretely completed the step out of the participant’s sight. The investigator then verbally gave the participant a direction to turn back and continue with the task. This continued for all steps in the task analysis. All subsequent baseline sessions consisted of single-opportunity probes. Within

these sessions, if participants did not initiate a step within 3 s, complete a step within 20 s, or completed a step incorrectly, the session ended and all remaining steps were scored as incorrect. Baseline was conducted for five sessions or until baseline data were stable. The investigator conducted intermittent probe sessions every five to seven sessions for tiers not in intervention to determine participant's ability to complete the task without access to VidAS.

Figure 3: Laundry Static Picture Schedule

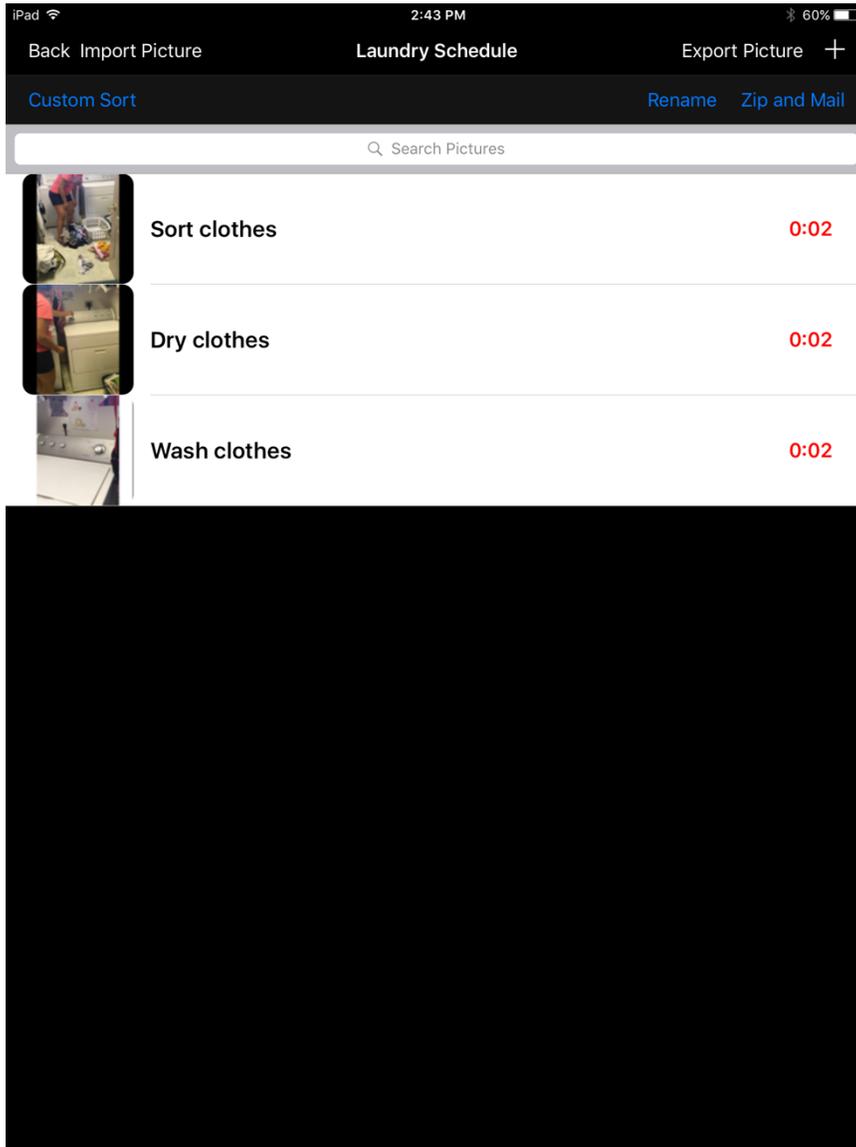


Figure 4: Office Static Picture Schedule

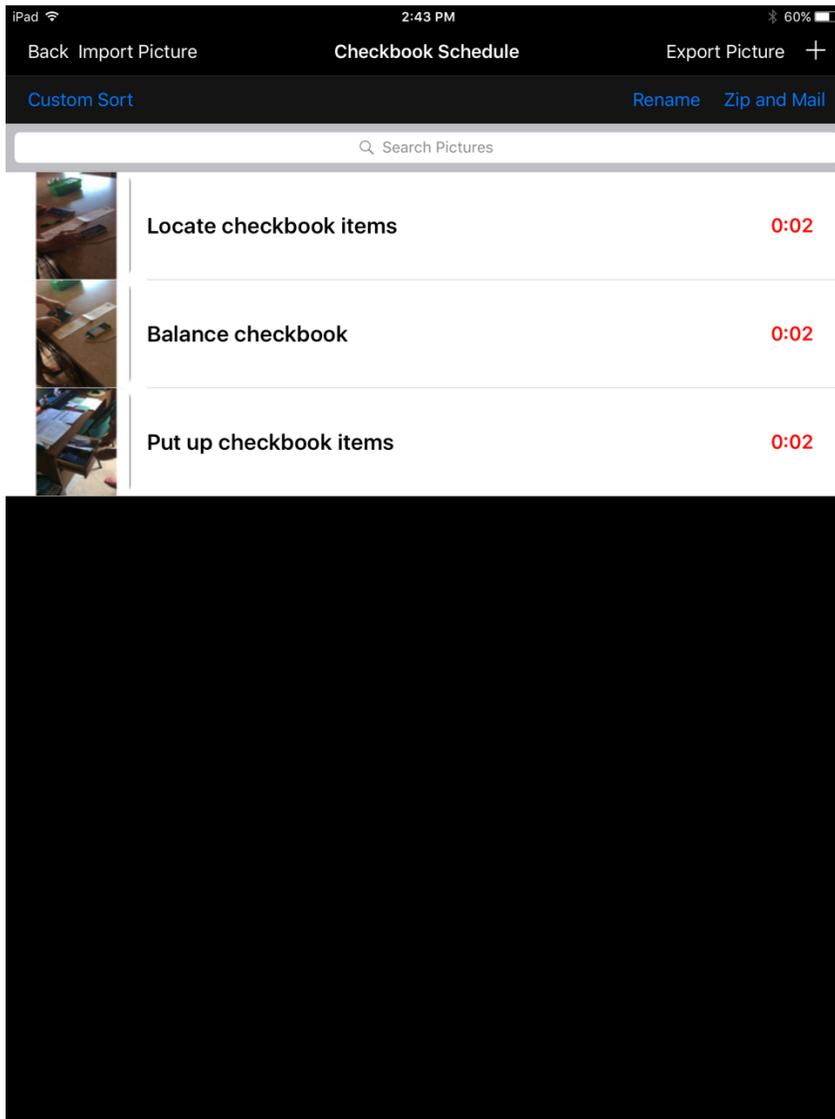
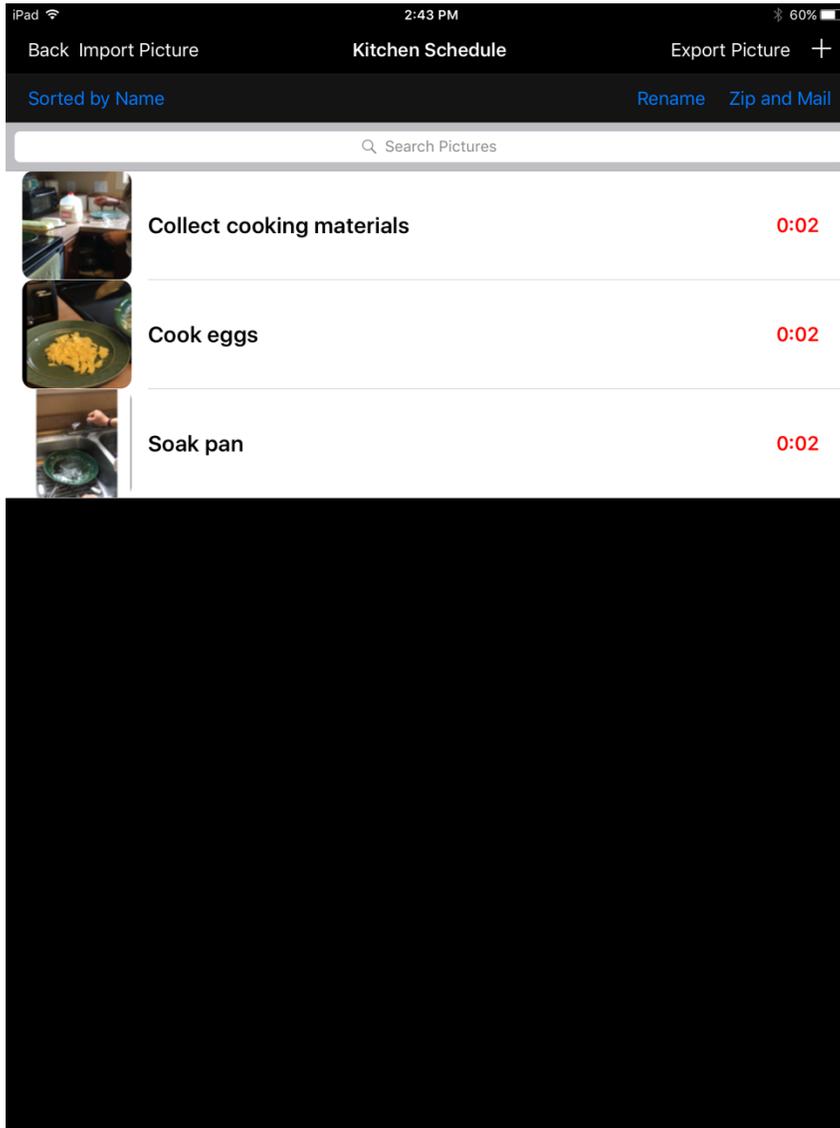


Figure 5: Kitchen Static Picture Schedule



VidAS procedures. VidAS sessions began in tier one upon stable baseline data in all tiers. In VidAS sessions, the iPad consisted of three settings, three tasks within each setting with a video model with embedded pauses depicting the task from start to finish. Sessions followed general procedures and were implemented using a single-opportunity probe meaning if participants made an error, the session was stopped and the rest of the steps were scored as errors. Videos were systematically introduced into the setting schedules as tiers were introduced. Prior to each VidAS session, the iPad was placed in the iPad charging location. The investigator stated the task direction such as, “Check your living room schedule”. Participants then had 3 s to initiate each step and 20 s to complete each step within the task analysis. General praise was provided by the investigator on a variable ratio 3 (VR:3) schedule for correct responding. Incorrect responding resulted in the investigator removing the iPad and ending the session. Mastery criterion for VidAS sessions was 100% independent correct responding of target tasks within a setting for three sessions with at least two of those sessions being consecutive.

As a secondary measure, participant procedural fidelity was collected on technology navigation and the utilization of pause and play features. The navigation steps were recorded to evaluate student procedural fidelity with the technology navigation, represented by grey bars in Figure 1 and 2. Navigation steps consisted of getting the iPad from the counter, press the home button, slide to unlock, press the MyPics button on iPad, press the ‘kitchen schedule’ story on iPad, pick the first picture at the top on iPad, press the picture on iPad, and watch the first step of collect cooking materials. Between tasks, data were taken on navigation steps consisting of press the green arrow on the right on iPad, press the picture on iPad, and watch the first step of cooking eggs. Data were

collected on the utilization of the pause and play feature between each step in the task analysis.

Maintenance procedures. Maintenance probes of mastered settings were assessed every five to seven sessions after VidAS instruction. After all settings were mastered, maintenance of task completion was assessed for all settings every five to seven sessions. Maintenance sessions were identical to VidAS sessions.

Generalization procedures. Generalization sessions of mastered settings were assessed for all settings 2 weeks after mastery of all tiers. Generalization sessions assessed if a static picture served as a discriminative stimulus for the completion of each task. Generalization sessions were identical to baseline sessions. During generalization sessions, if the performance dropped below 100%, the VidAS pertaining to that environment was reintroduced.

Interobserver Agreement and Procedural Fidelity

Data were collected on interobserver agreement (IOA) for a minimum of 20% of the sessions across all conditions, in all settings, for both participants, and during single opportunity probe sessions and multiple opportunity probe sessions (see Table 2 and 3). IOA was calculated using the point-by-point method by dividing the total number of agreements regarding student performance by the total number of agreements and disagreements and multiplying by 100 (Gast & Ledford, 2014).

IOA for Chloe was collected in tier one baseline sessions for 40% of sessions with 100% mean IOA. In tier one intervention sessions, IOA was collected 56% of sessions with a mean IOA of 100%. During tier two baseline and intervention sessions, IOA was

collected for 50% of sessions with 100% mean IOA. In tier three baseline sessions, 30% mean IOA was collected with a mean IOA of 99%.

Procedural fidelity data were collected on investigator behaviors during baseline, VidAS, and maintenance sessions (see Table 2 and 3). Planned investigator behavior consisted of materials pre-arranged, correct task direction provided, praise for correct responding on a VR:3 schedule, the last step of each task analysis praised, and the probe procedure (i.e., multiple opportunity or single opportunity) implemented correctly. Procedural fidelity was calculated by dividing the number of behaviors that were successfully implemented by the number of planned behaviors and multiplying by 100 (Gast & Ledford, 2014).

Procedural fidelity data was collected for Chloe in tier three intervention for 14% of sessions with a mean of 100%. In tier two intervention sessions, data was collected for 14% of sessions with a mean of 100%.

Table 2: Procedural Fidelity (Chloe)

Tier	% with IOA	Mean IOA	% with Procedural Fidelity	Mean Procedural Fidelity
Tier 1 Baseline	40%	100%	0%	N/A
Tier 1 VidAS	56%	100%	0%	100%
Tier 1 Maintenance				
Tier 1 Generalization				
Tier 1 Navigation				
Tier 2 Baseline	50%	100%	0%	N/A
Tier 2 VidAS	50%	100%	14%	100%
Tier 2 Maintenance				
Tier 2 Generalization				
Tier 2 Navigation				
Tier 3 Baseline	30%	99%	10%	100%
Tier 3 VidAS	100%	TBD	TBD	TBD
Tier 3 Maintenance				
Tier 3 Generalization				
Tier 3 Navigation				

Table 3: Procedural Fidelity (Cody)

Tier	% with IOA	Mean IOA	% with Procedural Fidelity	Mean Procedural Fidelity
Tier 1 Baseline	50%	100%	17%	100%
Tier 1 VidAS				
Tier 1 Maintenance				
Tier 1 Generalization				
Tier 1 Navigation				
Tier 2 Baseline				
Tier 2 VidAS				
Tier 2 Maintenance				
Tier 2 Generalization				
Tier 2 Navigation				
Tier 3 Baseline				
Tier 3 VidAS				
Tier 3 Maintenance				
Tier 3 Generalization				
Tier 3 Navigation				

Section 4: Results

Effectiveness of VidAS

Data were based on the participants' ability to complete three tasks within three settings when VidAS were available. Those data are represented in Figure 1 and 2. Chloe completed 7-25% of steps correctly within baseline sessions with a mean of 11.9%. Upon introduction of VidAS, data moved in a therapeutic trend, though delayed in tier 3, and Chloe met mastery criteria within X sessions across tiers. Cody completed 0-13% of steps correctly within baseline sessions with a mean of 2.9%. Upon introduction of VidAS, Cody completed X% of steps correct, with mastery after X sessions.

Participant Procedural Fidelity

The use of the technology and the play and pause features were assessed for participant procedural fidelity during each session. In X sessions of intervention, Chloe's procedural fidelity had a mean of X% (range X-X%). Cody used the technology with a mean of X% (range X%-X%) in X sessions of intervention. The pause and play features were the most common procedural fidelity error across participants, as participants would complete steps in the video as the video was playing.

Data reached mastery for Chloe in seven sessions in tier one and six sessions in tier two. Upon the introduction of the independent variable in tiers one and two, there was an immediate and abrupt change in the dependent variable in a therapeutic direction while data in other tiers remained unchanged. In tier three, data reached mastery in X sessions. The change in behavior in tier three was delayed, so the demonstration of experimental control is less clear.

In tier one, the percentage overlapping data (POD) was 0% while the percentage nonoverlapping data (PND) was 100%. In tier one, the relative level change within condition was 18 and the relative level change between adjacent conditions was 69 with improvement. In tier two, the percentage overlapping data (POD) was 0% while the percentage nonoverlapping data (PND) was 100%. In tier two, the relative level change within condition was 38 and the relative level change between adjacent conditions was 48 with improvement. In tier three, the percentage overlapping data (POD) was 89% while the percentage nonoverlapping data (PND) was 11%. In tier three, the relative level change within condition was 48 and the relative level change between adjacent conditions was 0 with no improvement.

Maintenance Data

Maintenance was assessed through presenting VidAS five to seven sessions after VidAS mastery in each tier. Chloe completed a mean of X% (range X-X%) steps using VidAS in maintenance sessions, identical to intervention sessions. Cody completed a mean of X% (Range X-X%) steps using VidAS.

Generalization Data

Generalization data were collected 2 weeks after mastery of all three tiers in the VidAS condition. Generalization data evaluated the participants' ability to complete steps in the task analysis in each setting after VidAS was removed and a static picture with a verbal task direction was introduced. Chloe completed an average of X% and Cody completed X% of steps during generalization sessions.

Section 5: Discussion

The current study evaluated the effectiveness of VidAS in the home setting on life skills. Findings from the study suggest that VidAS is an effective tool in the completion of life skills within the home setting. Promoting independence within the home setting is vital for individuals with ID. Self-instruction of life skills within the home setting can improve the completion of novel tasks within the home with the absence of adult prompting.

While some individuals may be reliant on the video model for the completion of tasks forever, some individuals may self-fade the use of technology. If individuals are reliant on VidAS and do not self-fade, the easy access to technology still allow learners to be able to complete task independent from intervention from another adult. After approximately two to three sessions within tier one and two, Chloe began to self-fade and completed steps within the task analysis before viewing each step in the task analysis via VidAS. Other investigators have found that learners have self-faded the use of VidAS (Shepley, Spriggs, Samudre & Elliot, 2017). The self-fading of VidAS indicates that the technology was not relied on for the completion of the tasks after exposed to the video model.

In the kitchen setting for Chloe, the investigator added an instructional modification. Chloe complete the entire biscuit task independently though was physically unable to open the biscuit can. After two consecutive sessions of unsuccessful attempts to open the biscuit can, the investigator started each biscuit can by pulling the tab approximately one inch before sessions were conducted. When VidAS was introduced in tier three, Chloe failed to play the video, therefore after three consecutive sessions of

failure to press play, the investigator verbally prompted Chloe to play and watch the video (i.e., play the video and watch it before you complete the task). After an additional three consecutive sessions of failure to play and watch the video, the investigator prompted and primed Chloe by informing her that she would continue with the living room schedule until the tasks were finished correctly.

Limitations

Investigator oversight prevented procedural fidelity data collection for tier one and two baseline and intervention conditions for Chloe. Due to a lack of procedural fidelity within these conditions, procedural fidelity serves as a threat to internal validity. Investigator procedural fidelity was collected during tier three intervention and throughout maintenance and generalization sessions for Chloe. Procedural fidelity was collected for at least 20% of baseline and intervention sessions for Cody.

The task analysis was limiting in that it stated that Chloe must sweep until all the leaves were off the back porch. Sweeping the porch until all of the leaves were off the porch is not representative of typically developing peer's performance. Leaves may be stuck between planks or between the house and the porch or wet leaves may stick to the porch, therefore a few leaves may remain on the porch. Completion of the outdoor schedule was contingent on the weather, though was not known until the weather restricted Chloe from completing the porch sweeping task after it had rained, due to the leaves sticking to the porch during the first maintenance session.

Tasks within each setting were selected according to parental and participant preference and the needs of the household. Since tasks were chosen according to such

preferences, tasks were not equivalent according to the number of steps and difficulty of steps. Tasks selected had a range of steps within each task analysis. Chloe's settings had a range of 14-36 steps within the task analysis (see Table 4-6), and Cody's settings had a range of 15-28 steps within the task analysis (see Table 7-9). Difficulty of tasks within each setting varied due to such preferences. Settings that had a high number of steps could have caused fatigue or boredom for participants, resulting in an aversive experience and decrease in correct completion of steps.

Table 4: Chloe Kitchen Schedule Task Analysis

Step	Task Description (Kitchen)
1	Locate pan in laundry closet Place pan on counter
2	Open refrigerator Get the biscuit container out and place on counter
3	Go to the stove Turn knob to 400 degrees
4	Locate PAM in pantry Spray pan with PAM
5	Locate silver part on biscuit can and pull paper back Knock the cardboard part of biscuit can on counter until the biscuit can pops Open the biscuit can by unrolling the can
6	Take out biscuits one by one and place on pan at least one inch apart
7	Put empty biscuit can in garbage Place PAM in pantry
8	Open oven Place pan in oven Close oven
9	Press COOK TIME Push the minute up button until it reaches 10 Press START TIME
10	Place kitchen towel on counter
11	Locate cow oven mit in third drawer down next to the fridge
12	Wait for oven to beep Put the cow oven mit on hand Take the biscuit pan out and place on towel
13	Turn oven knob to OFF
14	Place cow oven mit back in drawer
15	Put kitchen towel flat on left side of the kitchen sink
16	Remove pan from stove and place in sink Fill pan with water
17	Pick up sponge Place a squirt of dawn on sponge
18	Scrub pan until clean Wash pan until soap suds are gone Place pan upside down on kitchen towel
19	Squeeze water out of sponge Place sponge in the sponge rack
20	Plug in blender
21	Put blender on the base and twist to the right until locked
22	Get strawberries out of refrigerator Place strawberries on counter
23	Place paper towel on counter Get a hand full of strawberries out of container and wash

- Place strawberries on paper towel
 - 24 Get a knife
 - Cut tops off strawberries
 - Place strawberries in blender
 - 25 Put paper towel and strawberry tops in garbage
 - 26 Get half of banana out of fruit basket
 - Peel banana
 - Place banana in blender
 - 27 Put banana peel in garbage
 - 28 Grab 5-7 pieces of ice out of the freezer
 - Place ice in blender
 - 29 Get milk out of refrigerator
 - Pour milk until it reaches the bottom line on the blender
 - 30 Put lid on milk
 - Place milk back in refrigerator
 - 31 Locate pack of sugar to the right of the stove
 - Open the sugar and pour into blender
 - 32 Place lid on blender
 - Press the PULSE button for 45 seconds-1.5 minutes
 - 33 Locate cup
 - Take off blender lid
 - 34 Turn blender cup to the left while holding the base
 - Pour smoothie mixture into cup
 - 35 Fill blender cup with water
 - Place in sink
 - 36 Place remaining strawberries in refrigerator
 - Throw away remaining trash
-

Table 5: Chloe Outdoor Schedule Task Analysis

Step	Task Description (Outdoor)
1	Get a plastic bag from the laundry room closet Go outside
2	Locate area marked by 4 orange cones Grab each weed by the root (where the weed meets the ground) Pull the weed upward
3	Pull all the weeds that are located in between the cones Put weeds in plastic bag
4	Dispose of the weeds in the garbage can
5	Go inside and wash hands
6	Locate watering can on front porch Take watering can to the kitchen sink
7	Fill the watering can up at least half way Walk to the hanging ferns outside
8	Pour water into each fern individually (tip the water can for at least 5 seconds)
9	Pour the remaining water in the watering can into the grass Place watering can in its original location on the front porch
10	Locate outside broom
11	Start sweeping in front of the door first until all the leaves are gone (quadrant 1)
12	Sweep from the door towards the side of the porch until the leaves fall of the
13	porch (quadrant 2) Continue sweeping from the corner of the house towards the outside of the
14	porch until all the leaves are off the porch (quadrant 3) Sweep the corner of the porch until all the leaves are off the porch (quadrant 4)

Table 6: Chloe Living Room Schedule Task Analysis

Step	Task Description (Living Room)
1	Remove movable items from the hardwood floor (ex. Xbox, plant)
2	Locate the broom in the kitchen closet
3	Take off dust pan Sweep behind yellow chair from the carpet to the chest
4	Sweep the side of the T.V. stand from the carpet to the wall corner
5	Sweep the small area in front of the T.V. stand
6	Sweep the other side of the T.V. stand from the T.V. until you reach the chairs
7	Sweep underneath the chairs until you reach the wall
8	Sweep the area in front of Maggie's cage until you reach the carpet
9	Remove the access hair from the broom by pulling them downward with your
10	hands Locate dust pan Place dust pan on the floor and sweep the dirt piles into the dust pan
11	Empty the dust pan into the garbage Place dust pan on the broom
12	Place broom back into the closet
13	Place movable items back onto the hardwood floor
14	Locate duster in kitchen closet Remove items from side table
15	Dust the table, move the lamp and dust underneath
16	Place items removed back on side table Remove items from T.V. stand that are not plugged in
17	Dust the T. V. stand, move plugged in items and dust under items
18	Place items removed back on T.V. stand Locate other side table Remove items from side table
19	Dust the table, move the lamp and dust underneath
20	Place items removed back on side table
21	Place duster back into kitchen closet
22	Remove movable items from carpet (ex. folding table, ottoman) Locate vacuum
23	Roll vacuum near an outlet Unwrap the cord
24	Plug into outlet
25	Press the foot pedal on the left side of the vacuum to lean vacuum handle back Press red button on left side of vacuum Vacuum in front of yellow chair Vacuum in front of couch Vacuum in front of chaise attached to couch
26	Push the red button on the left side to turn off vacuum Unplug vacuum Roll the cord up on the right side of the vacuum
27	Put vacuum in original location

Place movable items back on the carpet

Table 7: Cody Laundry Schedule Task Analysis

Step	Task Description (Laundry)
1	Walk to the bathroom Locate the dirty clothes hamper in the closet Set clothes on counter
2	Close bathroom closet door Walk with the dirty clothes hamper to the laundry room Set the hamper on the floor
3	Sort darks, whites, and lights into their corresponding piles
4	Open the washing machine lid Open the dryer lid
5	Put the clothes from the washing machine into the dryer
6	Close the dryer door Set the far left knob to VERY DRY on the left, near AUTOMATIC DRY
7	Push in the far right knob
8	Pick up the dark dirty clothes pile Put the dark clothes into the hamper Place the hamper on the dryer
9	Close the washing machine lid
10	Put the far left knob on LARGE Put the middle knob on COLD/COLD
11	Line the far right knob up to REGULAR on the right side to DELICATES Pull the knob
12	Lift the washing machine lid up
13	Locate the GAIN container and open it Pick up the scoop and fill half full with gain Place the scoop of gain in washing machine Put the scoop back in the gain container
14	Place all dark clothes into washing machine
15	Close the washing machine lid Place the hamper on the floor

Table 8: Cody Office Schedule Task Analysis

Step	Task Description (Office)
1	Walk to the desk in the office Open the top drawer
2	Pick up the checkbook on the left Close the drawer
3	Place the checkbook on the kitchen counter Open the kitchen drawer to the right and pick up a pen
4	Locate and unlock a cell phone
5	Open checkbook to the last transaction Press AC to clear iPhone
6	Write the date under the next blank DATE
7	Write the name of the store under TRANSACTION DESCRIPTION
8	Locate BALANCE on receipt Circle the number directly to the right Write the circled amount under CHECK OR DEBIT AMOUNT
9	Type in the last number under BALANCE FWD
10	Press the minus sign
11	Type in the circled number on the receipt
12	Press the equal sign
13	Write the number on the phone under BALANCE FWD
14	Close the checkbook Press AC on the phone
15	Pick up the checkbook and receipt Walk to the office
16	Open the top drawer Place the checkbook in the left side of the drawer
17	Pick up the envelope on the right side of the drawer Put the receipt in the envelope, put the envelope back in the drawer Close the drawer

Table 9: Cody Kitchen Schedule Task Analysis

Step	Task Description (Kitchen)
1	Locate eggs and place on counter Locate butter and place on counter
2	Locate milk and place on counter
3	Locate pan and place on counter Locate whisk and place on counter
4	Locate fork and knife and place on counter Locate 2TBSP spoon and place on counter
5	Locate bowl and place on counter
6	Locate plate and place on counter
7	Locate spatula and place on counter
8	Open eggs Take out 2 eggs Crack both eggs into bowl and place shells in garbage
9	Locate whisk and unwrap cord Plug in the whisk
10	Insert whisk into the eggs, the bottom should be touching the bottom of the bowl Turn the whisk on and move in circles until eggs turn a pale yellow
11	Place whisk on plate
12	Open the milk Pour milk into the 2TBSP spoon Pour milk into egg mixture Put the lid on the milk
13	Place whisk into the egg mixture, the bottom should be touching the bottom of the bowl Turn the whisk on and move in circles until the mixture is mixed
14	Place whisk on plate
15	Turn the oven knob to 4 Take lid off the butter tub
16	Cut off a sliver of butter and place on pan Recover the butter tub
17	Place knife in sink Place eggs back in refrigerator Place butter back in refrigerator
18	Place milk back in refrigerator
19	Unplug whisk
20	Pour egg mixture into the pan
21	Let eggs sit about a minute until the bottom starts to set
22	Scrape the eggs with a spatula from the edge of the pan towards the center
23	Repeat until there is no liquid left
24	Turn the knob to OFF Move egg pan off hot surface
25	Move plate to counter beside stove Scrape eggs onto plate

Place pan back on cool surface on stove

Implications for Practitioners

The results of this study have implications for practitioners of school-aged and post-high school individuals with ID. In the home setting, learning to complete life skills is vital in independence. Adults with ID often require prompts from other adults in the school, home, and employment settings. Using VidAS within the home setting frees parents and siblings from prompting the individual to complete various tasks, and allows for increased independence when completing novel tasks. This leads to increased time the parents and siblings can focus on other tasks needed to be completed within the home.

In living situations for individuals with disabilities, there are few options such as group home living, assisted living with roommates, and independent living. In all living situations, it is important for individuals with disabilities to be as independent as possible in order to contribute within the home, or to keep up with their own house or apartment. Generalization to other settings should be assessed in the future, in particular for adults who have multiple living situations. Practitioners should assess if participants can generalize mastered skills to other settings, such as washing dishes, cooking biscuits, and making a smoothie in another home setting, within a school, or in an employment setting.

Within the videos, play and pause were embedded between steps in the task analysis to chunk tasks and increase responding. Chloe's responding to the pause and play functions decreased as her correctly completed steps within each skill set increased. Future studies could instruct participants to pause when needed given a novel task without the embedded pause discriminative stimulus, and assess if individuals generalize and fade the use of the pause and play feature given a novel task. To fade adult directives

to perform a task, researchers should evaluate if preset alarms within mobile technology could serve as the discriminative stimulus if they are paired with a written or auditory task direction (e.g., do your kitchen schedule).

Conclusions

Independence in the completion of life skills is vital in the independence of individuals with ID. Given that individuals with disabilities do not receive services under IDEA after high school, it is fundamental for individuals with disabilities to be independent. Mobile technology within the home setting is an opportunity for self-instruction, so that an individual with ID can learn life skills after the conclusion of educational services. Mobile technology may eliminate the stigma associated with other self-instruction tools such as visual schedules to prompt an individual through tasks, being as typically developing peers use mobile technology within their natural environment. Using mobile technology to prompt an individual through novel tasks eliminates the need of adult prompting, and also allows for increased independence for the individual when completing various such tasks.

Appendix

Table 1: Technology Training Task Analysis

Step	Task Description (Office Work)
1	Locate iPad
2	Pick up iPad
3	Push the home button
4	Slide to unlock
5	Press the MyPics button on the iPad
6	Press the 'Office Work' story on the iPad
7	Pick the 1 st picture at the top on the iPad
8	Press the picture on the iPad
9	Watch the first step of sort markers
10	When you see the pause sign, press pause
11	<i>Pick up orange marker and place on counter</i>
12	Press Play
13	Watch the second step of sort markers
14	When you see the pause sign, press pause
15	<i>Pick up blue marker and place to the right of the orange marker</i>
16	Press Play
17	Watch the third step of sort markers
18	When you see the "FINISHED", <i>"Pick up the green marker and place to the left of the orange marker"</i>
19	Press the green arrow in the iPad
20	Press the picture on the iPad
21	Watch the first step of sort envelopes
22	When you see the pause sign, press pause
23	<i>Locate and pick up envelopes</i>
24	Press Play
25	Watch the second step of sort envelopes
26	When you see the pause sign, press pause
27	<i>Put the green envelope in the front</i>
28	Press Play
29	Watch the third step of sort envelopes
30	When you see the pause sign, press pause
31	<i>Put the orange envelope in the center</i>
32	Press Play
33	Watch the fourth step of sort envelopes
34	When you see the "FINISHED", <i>"Put the white envelope at the end"</i>
35	Press the green arrow on the iPad
36	Press the picture on iPad
37	Watch the first step of color coat calendar
38	When you see the pause sign, press pause

- 39 *Gather calendar sheet and green, blue, and orange markers*
 - 40 Press Play
 - 41 Watch the second step of color coat calendar
 - 42 When you see the pause sign, press pause
 - 43 *Color the numbers 2 and 6 blue*
 - 44 Press Play
 - 45 Watch the third step of color coat calendar
 - 46 When you see the pause sign, press pause
 - 47 *Color the number 9 orange*
 - 48 Press Play
 - 49 Watch the fourth step of color coat calendar
 - 50 When you see the “FINISHED”, “*Color the numbers 12 and 14 green*”
-

Table 2: Technology Training Task Analysis

Step Task Description (Scrapbook Schedule)

1	Locate iPad
2	Pick up iPad
3	Push the home button
4	Slide to unlock
5	Press the MyPics button on the iPad
6	Press the ‘Scrapbook’ story on the iPad
7	Pick the 1 st picture at the top on the iPad
8	Press the picture on the iPad
9	Watch the first step of tape pictures
10	When you see the pause sign, press pause
11	<i>Tape picture on front of book</i>
12	Press Play
13	Watch the second step of tape pictures
14	When you see the pause sign, press pause
15	<i>Tape picture on 1st page of book</i>
16	Press Play
17	Watch the third step of tape pictures
18	When you see the “FINISHED”, <i>“Tape picture on back of book”</i>
19	Press the green arrow in the iPad
20	Press the picture on the iPad
21	Watch the first step of place stickers
22	When you see the pause sign, press pause
23	<i>Place sticker of XX on front of book</i>
24	Press Play
25	Watch the second step of place stickers
26	When you see the pause sign, press pause
27	<i>Place sticker of XX on first page of book</i>
28	Press Play
29	Watch the third step of place stickers
30	When you see the “FINISHED”, <i>“Place sticker of XX on back of book”</i>
31	Press the green arrow on the iPad
32	Press the picture on iPad
33	Watch the first step of write in book
34	When you see the pause sign, press pause
35	<i>Draw a square on the first page of book</i>
36	Press Play
37	Watch the second step of write in book
38	When you see the pause sign, press pause
39	<i>Draw circle on the last page of the book</i>
40	Press Play
41	Watch the third step of write in book

- 42 When you see the “FINISHED”,
43 *“Write your name on the back of the book”*
-

Table 3: Technology Training Task Analysis

Step	Task Description (Matching Work)
1	Locate iPad
2	Pick up iPad
3	Push the home button
4	Slide to unlock
5	Press the MyPics button on the iPad
6	Press the 'Matching Work' story on the iPad
7	Pick the 1 st picture at the top on the iPad
8	Press the picture on the iPad
9	Watch the first step of match pictures
10	When you see the pause sign, press pause
11	<i>Pick up picture of cat and put on 1</i>
12	Press Play
13	Watch the second step of match pictures
14	When you see the pause sign, press pause
15	<i>Pick up picture of dog and put on 3</i>
16	Press Play
17	Watch the third step of match pictures
18	When you see the "FINISHED", " <i>Pick up picture of rat and put on 2</i> "
19	Press the green arrow in the iPad
20	Press the picture on the iPad
21	Watch the first step of match pens
22	When you see the pause sign, press pause
23	<i>Put the black pen on dog picture</i>
24	Press Play
25	Watch the third step of match pens
26	When you see the pause sign, press pause
27	<i>Put the pink pen on rat picture</i>
28	Press Play
29	Watch the fourth step of match pens
30	When you see the "FINISHED", " <i>Put the blue pen on cat picture</i> "
31	<i>blue pen on cat picture</i> "
32	Press the green arrow on the iPad
33	Press the picture on iPad
34	Watch the first step of match numbers
35	When you see the pause sign, press pause
36	<i>Place the number 4 on top of number 1</i>
37	Press Play
38	Watch the second step of match numbers
39	When you see the pause sign, press pause
40	<i>Place the number 6 on top of number 3</i>
41	Press Play

- 42 Watch the third step of match numbers
 - 43 When you see the “FINISHED”, “*Place the number 5 on top of number 2*”
-

References

- Ault, M. J., Collins, B. C., & Carter, E. W. (2013). Congregational participation and supports for children and adults with disabilities: Parent perceptions. *Intellectual and Developmental Disabilities, 51*, 48-61.
- Barton, E. E., & Wolery, M. (2010). Training teachers to promote pretend play in young children with disabilities. *Exceptional Children, 77*, 85-106.
- Browder, D. M., Jimenez, B. A., Mims, P. J., Knight, V. K., Spooner, F., Lee, A., & Flowers, C. (2012). The effects of a “tell-show-try-apply” professional development package on teachers of students with severe developmental disabilities. *Teacher Education and Special Education, 35*, 212-227.
- Browder, D. M., Trela, K., & Jimenez, B. (2007). Training teachers to follow a task analysis to engage middle school students with moderate to severe developmental disabilities in grade-appropriate literature. *Focus on Autism and Other Developmental Disabilities, 22*, 206-219.
- Collins, B. C., Epstein, A., Reiss, T., & Lowe, V. (2001). Including children with mental retardation in the religious community. *Teaching Exceptional Children, 33*(5), 52-58.
- Conroy, A. M., Sutherland, S. K., Snyder, A., Al-Hendawi, M., & Vo, A. (2009). Creating positive classroom atmosphere: Teachers’ use of effective praise and feedback. *Beyond Behavior, 18*-26.
- Courtade, G. R., Browder, D. M., Spooner, F., & DiBiase, W. (2010). Training teachers to use an inquiry-based task analysis to teach science to students with moderate to

- severe disabilities. *Education and Training in Autism and Developmental Disabilities, 45*, 378-399.
- Downing, J. E., & Eichinger, J. (2003) Creating learning opportunities for students with severe disabilities in inclusive classrooms. *Teaching Exceptional Children, 36*(1), 26-31.
- Duchaine, E. L., Jolivette, K., & Fredrick, L. D. (2011). The effect of teacher coaching with performance feedback on behavior-specific praise in inclusion classrooms. *Education and Treatment of Children, 34*, 209-227.
- Fisher, C. W., & Berliner, D. C. (1985). *Perspectives on instructional time*. New York: Longman
- Gast, D. L., & Ledford, J. R. (2014). (Eds). *Single case research methodology in special education and behavioral sciences*. New York: Routledge.
- Greenwood, C. R., Delquadri, J., & Hall, R. V. (1984). Opportunity to respond and academic achievement. In W. L. Heward, T. E. Heron, D. S. Hill, & J. Trap-Porter, *Focus on behavioral analysis in education* (pp. 58-88). Columbus, OH: Merrill.
- Heward, W. L. (1994). Three low-tech strategies for increasing the frequency of active student response during group instruction. In R. Garner, III, D. M. Sainato, J. O., Cooper, T. E., Heron, W. L, Heward, J., Eshleman, & T. A. Grossi (Eds.), *Behavior analysis in education: Focus on measurably superior instruction*. Pacific Grove, CA: Brooks/Cole.
- Horrocks, L. E., & Morgan, L. R. (2011). Effects of inservice training on correct implementation of assessment and instructional procedures for teachers of

students with profound multiple disabilities. *Teacher Education and Special Education, 34*, 283-319.

Hundert, P. J. (2007). Training classroom resource preschool teachers to develop inclusive class interventions for children with disabilities: Generalization to new intervention targets. *Journal of Positive Behavior Interventions, 9*, 159-173.

Individuals with Disabilities Education Act (IDEA). (2004). Retrieved on March 18, 2014 from:

<http://idea.ed.gov/explore/view/p/%2Croot%2Cstatute%2CI%2CB%2C612%2Ca%2C5%2C>

Kim, K. R., & Dymond, K. S. (2012). A national study of community living: Impact of type of residence and hours of in-home support. *Research and Practice for Persons with Severe Disabilities, 37*, 116-129.

Markell, J. (2013). Employing individuals with disabilities. *Policy and Practice, 71*, 12-15.

Parnell, D. (n.d.). *A place for all: Inclusion of people with disabilities*. Baylor University. Retrieved on March 6, 2014 from:

<http://www.baylor.edu/content/services/document.php/38384.pdf>

Roux, M. A., Shattuck, T. P., Cooper, P. B., Anderson, A. K., Wagner, M., & Narendorf, C. S. (2013). Postsecondary employment experiences among young adults with an autism spectrum disorder. *Journal of American Academy of Children and Adolescent Psychiatry, 52*, 931-939.

Simonsen, B., Myers, D., & DeLuca, C. (2010). Teaching teachers to use prompts, opportunities to respond, and specific praise. *Teacher Education and Special Education, 33*, 300-318.

Thompson, M. T., Marchant, M., Anderson, D., Prather, M.A., & Gibb, G. (2012). Effects of tierd training on general educators' use of specific praise. *Education and Treatment of Children, 35*, 521-546.

Wehman, P. (2011). Employment for persons with disabilities: Where are we now and where are we going? *Journal of Vocational Rehabilitation, 35*, 145-151.

Vita

Kaylee A. Ortiz

University of Kentucky 20011-2016
Bachelor of Art in Education