

THE EFFECTS OF CLASSROOM SIMULATION USING STATIC PICTURE
PROMPTS TO TEACH STUDENTS WITH DISABILITIES TO MAKE PURCHASES
WITH A DEBIT CARD AND TRACK THEIR EXPENSES

by

Dawn Abernathy Rowe

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Approved by:

Dr. David W. Test

Dr. Diane Browder

Dr. Wendy Wood

Dr. Ellen Sewell

ABSTRACT

DAWN ABERNATHY ROWE. The effects of classroom simulation using static picture prompts to teach students with disabilities to make purchases with a debit card and track their expenses. (Under the direction of DR. DAVID W. TEST)

This study used a multiple probe design across participants to examine the effects of classroom simulation using static picture prompts to teach students to make a purchase using a debit card and track expenses by subtracting purchase amounts and adding deposits into a check register. Results demonstrated a functional relation between simulated instruction and students' ability to complete a 20-step task analysis of debit card use and expense and deposit tracking in a check register. Students were also able to generalize the skills of purchasing with a debit card and tracking expenses and deposits in community settings up to five weeks post-intervention. Implications for practice and recommendations for future research are described.

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CHAPTER 1: INTRODUCTION

Statement of the Problem

Post-school outcomes for students with disabilities continue to remain below that of their peers without disabilities (Blackorby & Wagner, 1996; Newman, Wagner, Cameto, & Knokey, 2009; Wagner, Newman, Cameto, Garza, & Levine, 2005). Young adults with disabilities are performing worse than their peers in some life skill areas necessary to become productive members of society (i.e., employment, education, independent and community living). Findings from wave four of the National Longitudinal Transition Study 2 (NLTS 2, 2009) suggest young adults with disabilities continue to be employed at a rate lower than their same-age peers without disabilities. At the time of NLTS 2 interviews, 57% of youth with disabilities were employed compared to 66% of youth without disabilities. Postsecondary education enrollment for youth with disabilities was also lower than their same-aged peers. At the time of the interviews, 45% of youth with disabilities reported pursuing postsecondary education within four years of leaving high school compared to 53% of youth in the general population. In terms of living independently, there was little difference between youth with and without disabilities (i.e., 75% compared to 72%). A large proportion of youth with disabilities were living with their parents, relatives, or legal guardians, despite graduating high school. In addition, young adults with disabilities lagged behind their same-age peers without disabilities in other life skill areas such as household responsibilities and having

a license to drive, indicating a need to better prepare students with disabilities for the transition from high school to adulthood (Newman et al., 2009; Wagner et al., 2005).

Graduating from high school is a time of growing independence that includes moving away from home, forming relationships, and managing financial responsibilities; however, few youth with disabilities, 25%, have lived independently outside the family home since their exit from high school (Newman et al., 2009). This dependence on family may have an adverse effect on managing financial responsibilities, given that parents are typically head of the household and carry these particular duties.

Finance skills are one key aspect of independence that youth with disabilities are struggling with, in particular youth with learning disabilities (LD), emotional disabilities (ED), and Autism (AU). Data reported in wave four of the NLTS 2 (2009) indicated that youth with disabilities lack finance skills. Some examples include opening and maintaining a checking or savings account, using credit cards, or investing money. Wave four of NLTS 2 (2009) indicated that only 60.2% of all youth with disabilities had a savings account (58.1% of students with LD; 49.0% of students with ED; 61.4% AU). Only 56.7% of youth with disabilities had a checking account and wrote checks (49.3% of students with LD; 35.1% of students with ED; 50.3% of youth with AU). Fewer youth, 41.7% had a credit card in his or her own name (30.5% of students with LD; 21.9% of students with ED; 13.7% of youth with AU; NLTS 2, 2009). Although these statistics indicate that few youth have a means to store and save money, 94.9% of youth had an allowance or other money that he/she could decide how to spend (96.7% of students with LD; 97.7% of students with ED; 82.9% of students with AU; NLTS 2, 2009). Given these statistics, financial skills are imperative for successful outcomes of students; therefore, presenting a need to teach finance skills prior to exiting high school.

While NLTS 2 reports finance as an area in which students with disabilities lag behind their same-age peers, this seems to be an area in which all students are struggling. Many youth have not acquired the skills to manage their personal finances (e.g., spending and money management, saving and investing, and the use of credit and debit), skills that can impact their future economic well-being (McCormick, 2009; Tennyson & Nguyen, 2001). Financial education has become increasingly emphasized in K-12 education since 1998. For example, there has been an increase in the number of states requiring personal finance content standards and course offerings (Council for Economic Education, 2009; Tennyson & Nguyen). The Council for Economic Education (CEE; 2009) reported that 44 states have personal finance content standards, an increase of 23% between 1998 and 2009. Of these 44 states, 34 require schools to implement those standards, a 20% increase from 1998, 15 states require a personal finance course to be offered, a 15% increase from 1998, 13 states require a personal finance class be taken for graduation, and nine states require testing in personal finance, an average of 10% increase from 1998. As apparent from these statistics, personal finance education is an increasing priority for states (CEE, 2009). In the present economy, it is important that youth possess, at minimum, a basic knowledge of money management skills including but not limited to banking, finance, savings, and credit (McCormick, 2009). With knowledge of the struggles students with disabilities face in regards to financial planning and management, it becomes increasingly important to teach students skills to adequately manage finances prior to leaving high school.

Financial skill requires an understanding of money, cash flow, and basic financial concepts (e.g., saving, spending, budgeting). It is not only a matter of knowing what one has and what one's options are, it is a matter of precise planning to meet life's goals. In

order to prepare youth to meet their postsecondary goals in independent living, education, and employment, teaching finance is imperative.

Personal finance skills are vital to managing a household, making purchases, paying bills, engaging in leisure activities, among other daily and adult living activities that require money to participate. Previous research has focused primarily on various components of personal finance such as banking (McDonnell & Ferguson, 1989) using a checking account (Davies, Stock, & Wehmeyer, 2003; LaCampagne, & Cipani, 1987; Zencius, Davis, & Cuvo, 1990), purchasing (Xin, Grasso, Dipipi-Hoy, & Jitendra, 2005) and money management (Browder & Grasso, 1999). In fact, Test, Fowler, Richter, White, Mazzotti, Walker, Kohler, and Kortering (2009) determined that teaching purchasing and teaching banking skills (i.e., making cash withdrawals and using an ATM) were evidence-based practices with a moderate level of research to support their effectiveness.

Personal finance skills have expanded with the use of technology. People can now choose to use debit cards in place of traditional methods of payment (i.e., cash or writing a check). Many methods have been used over the years to teach various components of personal finance; however, it is important that we consider the most effective and efficient way to teach these skills. The two most common strategies used to teach personal finance skills (i.e., purchasing and money management skills) are community-based and simulated instruction.

Community-based instruction (CBI; sometimes referred to as in vivo training) is defined as instruction of functional skills that takes place in the community where target skills would naturally occur (Brown et al., 1983). Community-based instruction provides opportunities for students to generalize skills to untrained settings and opportunities for

students to be included in society with individuals without disabilities (Wolfe, 1994). CBI is reality-based training in which a student works and trains at selected community environments with desired outcomes being competitive employment and independent living skills (Wehman & Kregel, 2003). CBI has been used as a strategy to teach functional skills such as laundry skills (Bates, Cuvo, Miner, & Korabek, 2001; Taylor, Collins, Schuster, & Kleinert, 2002), grocery shopping (Alcantara, 1994; Bates et al., 2001; Morse & Schuster, 2000), vocational skills (Bates et al., 2001), leisure skills (Schloss, Alper, Young, Arnold-Reid, Aylward, & Dudenhoefter, 1995), and safety skills (Taber, Alberto, Hughes, & Seltzer, 2002). When using appropriate non-intrusive techniques such as least to most prompts, nonexclusionary time-out, or data collection using notepad or stop watch, CBI is considered a socially valid intervention (Wolfe, 1994). CBI has also been named as an effective intervention for life skills and vocational instruction in the What Works Transition Synthesis Project (Alwell & Cobb, 2006) and identified as a predictor that leads to successful post-school outcomes (Test et al., 2009).

Although CBI has been found to be an effective intervention to teach skills it may not always be the appropriate strategy to use. In some cases, CBI does not allow for sufficient training or testing opportunities. It may also not be feasible due to other barriers such as cost, transportation, and proximity of school to community sites. An alternative to CBI is simulated instruction.

Simulated instruction is defined as the use of simulations in the classroom that approximate the natural stimulus conditions and response topographies associated with performing functional skills (Bates et al., 2001). There are many benefits of simulated instruction. First, the practice is more efficient than CBI because students can engage in repeated practice over a short period of time. Simulation is also more cost effective

because artificial materials can be reused, whereas, CBI would require increased expenditures. Simulated instruction is also less time consuming than CBI, since during CBI, instructional time can be consumed with travel to and from a site. Lastly, simulated instruction allows for error correction more readily than CBI (Vogelsberg, Williams, & Bellamy, 1982). Simulated instruction has been identified as an effective strategy to teach several functional skills such as grocery shopping (Bates et al., 2001), janitorial duties (McDonnell & Ferguson, 1988) laundry skills (Neef, Lensbower, Hockersmith, DePalma, & Gray, 1990), and purchasing (Mechling, Gast, & Barthold, 2003). Results from studies also suggest that the extent to which the simulation is effective depends on the type of disability student's have (e.g., mild intellectual disability or moderate intellectual disability). Those individuals with more mild disabilities have greater gains with simulated only instruction as opposed to students with more moderate disabilities (Bates et al., 2001).

Several studies have compared the effects of using community-based instruction only, simulated instruction only, and a combination of the two (Bates et al., 2001; Cihak et al., 2004; McDonnell & Ferguson, 1988; Neef et al., 1990; Nietupski et al., 1986). The results of these studies indicated that both strategies are effective in teaching various functional life skills. Combining simulated instruction with community-based instruction within close proximity to one another has evidence of maximizing student skill performance (Bates et al., 2001; McDonnell & Ferguson, 1988; Neef et al., 1990; Nietupski et al., 1986). The primary argument for using CBI as a teaching strategy is to maximize the potential for skill generalization (Bates et al., 2001). If simulations adequately represent the variety of stimulus and responses associated with the community setting, then theoretically generalization should occur (as cited in Bates et al., 2001).

Nietupski, Hamre-Nietupski, Clancy, and Veerhusen (1986) established guidelines for making simulation an effective addition to CBI. The first step in creating simulated instruction according to Nietupski et al. is to examine community settings to determine the range of stimulus and response variations that students could potentially face. Simulation should ultimately include as many as the stimulus and response variations presented in community settings to maximize generalization of the skill. The second step in creating simulated instruction is to systematically manipulate the simulations to provide a sufficient number of training examples. The third guideline is to measure performance in community settings and use this assessment data to modify simulations as necessary. If students experience difficulty in a particular step of the task in the community or sequence of steps, simulation should be used to provide repeated practice and error correction.

Mechling, Gast, and Barthold (2003) incorporated these guidelines for developing simulated instruction in an investigation of the use of a computer-based program to teach students to make a purchase using an automated debit machine. They specifically examined whether students who were taught using simulated instruction only would generalize their use of the debit card to community stores. Results indicated that providing simulated instruction in the classroom and measuring performance in the community was effective in teaching students with a moderate intellectual disability to use a debit card to make a purchase in the classroom and to generalize the skill to novel stores in the community.

Simulated instruction is rarely used in isolation. It typically includes other teaching strategies such as modeling, prompting, and time delay. For example, Mechling et al. (2003) incorporated video modeling, video prompting, and constant time delay into

their computer simulation. Cihak, Alberto, Taber-Doughtry, and Gama (2006) examined the effects of static picture prompts and video prompts to teach students to use a debit card. All combinations of teaching strategies have proven to be effective, but some strategies have been found to be more efficient in teaching skills than others. For example, McDonnell and Ferguson (1989) examined the effectiveness of simulation using time delay and a system of least to most prompts on making a withdrawal using an ATM. They found that both strategies, time delay and least to most prompting, resulted in reliable performance of the target skill; however, the system of least to most prompts was a more efficient teaching strategy. Other studies have not distinguished a strategy as more effective than another but rather looked at the entire intervention package which included several strategies combined. For example, Aeschleman and Gedig (1985) used simulation in conjunction with role-play, verbal praise, and verbal and physical prompts to teach students about banking that showed promising results. Cihak, Alberto, Kessler, and Taber (2004) combined simulation with a system of least prompts to teach use of an ATM machine which resulted in student acquisition of skill. There is not enough research available to establish any one combination of strategies as more effective than another, just that teaching banking and money management skills using these strategies has lead to increased acquisition, maintenance, and generalization of skills.

As stated earlier, personal finance is a set of skills used to acquire and manage income and includes the ability to use these skills to make wise decisions regarding how one spends and saves. A limitation of many of the studies examining the use of a debit card is that they examine a small subset of skills related to personal finance (e.g., purchasing, withdrawing money). Former studies do not take into consideration the broader context of managing money that requires individuals to keep track of their

expenses and deposits and to make decisions about spending based on their knowledge of the amount in their accounts.

Only one study has examined purchasing in conjunction with the more complex skill of tracking expenses (Rowe, Cease-Cook, & Test, 2011). Rowe, Cease-Cook, and Test (2011) examined the effects of using simulation with static picture prompts on teaching students to use a debit card to make a purchase and to track expenses by subtracting the amounts of their purchase from the total amount in their check registers. Results indicated that simulation using static picture prompts was an effective means to teach students with mild intellectual disabilities to make a purchase using a debit card and subtract their expenses in a check register. However, this study was limited in that it only addressed subtracting expenses. Personal finance skills are skills to acquire and manage income. To do this, researchers must examine teaching the skills of adding deposits into check registers as well as subtracting debits. Another limitation of previous studies is that they do not examine the use of personal finance skills learned in making decisions regarding spending. In order to promote financial literacy, studies need to examine not only teaching the personal finance skills, but teaching students to use those skills to make decisions about purchases.

Purpose of the Study

The purpose of this study was to examine the effects of classroom simulation using static picture prompts to teach students to make a purchase using a debit card and track expenses by subtracting purchases and adding deposits. This was a systematic replication and extension of the aforementioned study conducted by Rowe et al. (2011).

Research Questions

The research questions that guided this study were as follows:

1. What was the effect of classroom simulation using picture prompts on acquisition of skills to use a debit card and track expenses?
2. What was the effect of classroom simulation using picture prompts on the generalization of skills to untrained community settings?
3. What was the effect of classroom simulation using picture prompts on the generalization of skills to untrained debit machines?
4. What were the students' perceptions of the use of a simulated debit card intervention as a method for learning money management skills?
5. What were the parents' perceptions of the use of a simulated debit card intervention as a method for teaching money management skills?
6. What were teachers' perceptions of the use of a simulated debit card intervention as a method for teaching money management skills?

Delimitations

This study had the following delimitations: research design, geographic location, and specific age and disability of students. First, the multiple probe design chosen for this study prevents generalization of results beyond the participants in this study. However, this was the most effective design choice because it allowed the researcher to establish a functional relationship between the independent and dependent variables. In addition, by following the quality indicators for single-subject design outlined by Horner et al. (2005), this study could positively contribute to future research on personal finance instruction for individuals with disabilities.

Second, this study was conducted in a small rural community in the northwestern United States with high school students identified as having a learning disability, emotional/behavior disability, or Autism in a special education setting. It was not

conducted in a general education classroom. This affects the ability to generalize results to other students in other school settings and geographical locations.

A final delimitation of this study was step one of the probe script. In order to allow students to proceed through the entire task analysis during probe sessions, only purchases less than the amount in their check registers were presented. If students were presented with amounts that were more than the total amount documented in the check register they would be unable to complete the entire task analysis including purchasing with the debit card and tracking their expense in a check register. During instruction students were provided examples where they had enough money to purchase an item and examples where they did not have enough money to purchase an item to allow opportunities to make decisions about future purchases based on amounts documented in check registers.

Definitions

Terms used in the study and their definitions are presented in the following section. The terms were chosen to enhance understanding of the study.

Continuous reinforcement schedule (CRF): A schedule of reinforcement in which the teacher provides reinforcement for each occurrence of the behavior (Cooper, Heron, & Heward, 2007).

Finance: The managing or science of managing money matters, credit, etc. (Agnes & Guralnik, 2010)

General case analysis: A systematic method for selecting teaching examples that represents the full range of stimulus variations and response requirements in the generalization setting (Cooper, Heron, & Heward, 2007).

General Case Programming: Behaviors performed by a teacher or trainer that increases the probability that skills learned in one training setting will be successfully performed with different target stimuli and/or different settings from those used during training (Horner, Sprague, & Wilcox, 1982)

Picture prompt: A stimulus (i.e., photograph) that functions as a cue or reminder for a desired behavior (Cooper, Heron, & Heward, 2007).

Simulation: The use of simulations in the classroom that approximate the natural stimulus conditions and response topographies associated with the performance of functional skills (Bates et al., 2001).

Total task chaining: A teaching strategy in which the learner receives training on each step in the task analysis during each training session (Cooper, Heron, & Heward, 2007).

Youth: Students ages 17 to 21 years of age (Newman et al., 2009)

CHAPTER 2: REVIEW OF THE LITERATURE

Transitions occur throughout one's lifetime. Transitioning from school to adulthood is one of the more significant transitions that adolescents face. Many changes occur for individuals with and without disabilities as they complete high school and move into adulthood specifically in the areas of employment, education, and independent living. For individuals with disabilities, this transition period is critical because the choices and actions made can affect them for a lifetime. The following section provides a review of the literature in the areas of post-school outcomes for individuals with disabilities, personal finance, teaching personal finance skills, and personal finance intervention strategies.

Post-school Outcomes

Historically, individuals with disabilities have not achieved post-school outcomes (i.e., enrolling in postsecondary education, being employed, living independently) to the extent as their same-aged peers without disabilities. As early as the late 1970's post-school outcome data were being collected by states and local school districts. The outcome of most interest was employment (Hasazi, Gordon, & Roe, 1985; Roessler, Brolin, & Johnson, 1990; Wehman, Kregal, & Seyfarth, 1985). For example, Hasazi, Gordon, and Roe (1985) surveyed individuals with disabilities who exited high school in Vermont from 1979 to 1983 to determine factors associated with employment status after high school. In general, they found that males (n=198, 66%) were employed more often than females (n=103, 33%), students served in a resource setting (n=187, 62%) were

more often employed than those served in a specialized setting (n=87, 36%), and those who graduated with a diploma (n=199, 60%), as opposed to dropping out (n=69, 51%) or aging out (n=33, 30%) were more likely to be employed. Reports from other studies included similar results and included post-secondary education (Blackorby & Wagner, 1996; Malmgren, Edgar, & Neel, 1998; Mithaug, Horiuchi, & Fanning, 1985; Wagner, Newman, Cameto, Garza, & Levine, 2005) and independent living outcomes (Blackorby & Wagner, 1996; Mithaug et al., 1998; Wagner et al., 2005). Students with disabilities were not entering postsecondary education programs at the same rate as their peers.

Blackorby and Wagner (1996) examined post-school outcomes of individuals with disabilities from the first National Longitudinal Transition Study (NLTS, 1987). They reported that 14% of individuals with disabilities had attended some type of postsecondary education since completion of high school compared to 53% of their peers without disabilities. Malmgren, Edgar, and Neel (1998) reported that 23% (n=13) of graduates with behavior disorders had completed some type of postsecondary degree program compared to 45% (n=161) of graduates without disabilities. Wagner et al. (2005) reported approximately 19% of students with disabilities were attending postsecondary education courses compared to 40% of their same-aged peers without disabilities.

Students with disabilities were also not moving out of the family home and living independently as often as their same-aged peers (Blackorby & Wagner, 1996; Wagner et al., 2005). Blackorby and Wagner (1996) reported that 13% of youth with disabilities were living independently upon graduation from high school compared to one third of their same-age peers without disabilities. Wagner et al. (2005) reported approximately 72% of youth with disabilities remained at home with their parents after they exited high school which is comparable to youth without disabilities.

Although recent reports of post-school outcomes for students with disabilities have shown some improvement, outcomes for students with disabilities continue to remain below their peers without disabilities in post-school life skill areas essential to becoming productive members of society (i.e., education, employment, independent living, and community living; Blackorby & Wagner, 1996; Wagner et al., 2005). In evaluating data across disability categories, such as specific learning disability (SLD), emotional/behavioral disturbance (EBD), and Autism (AU), based on the most recent NLTS 2 (wave four) results, outcomes across disability categories also show variation (Newman, Wagner, Cameto, & Knokey, 2009).

Postsecondary education and training. Postsecondary education is defined as participation in a vocational, business, or technical school, a two-year or community college, or a four-year college or university after graduation from high school (Newman et al., 2009). Comparisons of postsecondary program enrollment results vary widely. Newman et al. (2009) found postsecondary attendance up to four years after leaving high school ranged from 27% to 78% across all youth with disabilities. In comparing disability categories, 47% of youth with SLD, 34% of youth with EBD, and 58% of youth with AU reported participation in postsecondary programs (Newman et al., 2009). Despite the reported 89% of youth with disabilities intending to finish their degree or certificate programs, only 29% of youth reported having done so. In comparing disability categories, 25% of youth with SLD and 45% of youth with EBD reported postsecondary program completion. Results for youth with Autism were not reported due to the small number of responses to that particular question (Newman et al., 2009).

Employment. In terms of employment, 57% of youth with disabilities leaving high school were employed outside of the home compared to 66% of the general

population (Newman et al., 2009). Employment rates ranged from 27% to 68% across disability categories. For example, 64% of students with SLD were currently working at the time of the interviews, 42% of students with EBD, and 47% of youth with AU (Newman et al., 2009). Thirty three percent of youth with disabilities received paid vacation or sick leave as part of a benefit package compared to 38% of youth in the general population. Only 28% of youth with disabilities had benefit packages that included health insurance compared to 37% of youth in the general population. Over half (58%) of students with disabilities were employed full-time, 42% of youth were employed part-time (i.e., less than 35 hours per week). Youth with LD (61%) and EBD (56%), were more likely to be employed full-time than youth with other disabilities such as AU (22%). Hourly wages for youth with disabilities were also slightly lower than their same-aged peers (i.e., \$8.20 per hour compared to \$9.20 per hour).

Independent living. In terms of independent living skills, 25% of youth with disabilities reported living independently compared to 28% of youth in the general population (Newman et al., 2009). Across disability categories, 29% of youth with SLD, 22% with EBD, and 11% with AU reported living independently (Newman et al., 2009). Youth with disabilities were accessing financial tools (i.e., checking accounts, credit cards) at a rate much lower than their same-aged peers. For example, 46% of youth with disabilities had checking accounts compared to 68% of youth in the general population and 28% of youth with disabilities had credit cards compared to 50% of youth in the general population. Although at least 56% of youth with disabilities reported having savings accounts and 28% reported having credit cards in their name, few could live independently or provide for additional family members since 89% had annual incomes of \$25,000 or less and more than half of these youth earning less than \$5,000 per year.

Across disability categories, 88% of youth with SLD, 92% of youth with EBD, and 94% of youth with AU were earning less than \$25,000 per year (Newman et al.2009). Youth with disabilities continued to lag behind their same aged peers in other salient independent living skill areas as well (e.g., community participation (49%), having a driver's permit or license (69%); Newman et al., 2009).

Summary of post-school outcomes. Post-school outcomes in postsecondary education, employment, and independent living for students with disabilities continue to remain behind those of their same-aged peers without disabilities. Youth with disabilities are not enrolling in postsecondary education programs at the same rate as their non-disabled peers. They are working fewer hours and earning lower wages than their same-age peers, continue to live in the family home after graduation, and are not accessing financial tools (e.g., checking accounts, credit cards), participating in community activities, or pursuing a driver's license.

The gaps among youth with and without disabilities in postsecondary outcome areas indicate a need to better prepare youth with disabilities for the transition from school to adulthood (Newman et al., 2009; Wagner et al., 2005). Graduation from high school is a milestone marking the first steps in the road to independence and a life filled with decisions regarding relationships, employment, continuing education, civic duties, community participation, and managing financial responsibilities. It is important that students have skills necessary to be active and contributing members of their communities.

Personal Finance

Personal finance skills are important aspects of independent living. For example, the ability to make informed decisions regarding how one manages their money is critical

to living on your own (Coit & Benjamin, 2007). Having finance skills requires an understanding of concepts such as money (e.g., identification, value), cash flow (e.g., deposits and withdrawals or debit), basic economic concepts (e.g., supply and demand), and debt/risk management (Jump \$tart Coalition for Personal Finance Literacy, 2007). Deficits in personal finance skills can affect an individual's or family's day-to-day money management and ability to save for their long-term goals (e.g., buying a home, getting a degree from higher education). Within the past 10 years, financial education has gained increased attention among educators, community groups, businesses, government agencies, and policymakers (Braunstein & Welch, 2002; Hilgart & Hogarth, 2003).

Increased focus on personal finance. Many factors have contributed to this new focus on teaching finance skills to all students in public schools including technology advances, changing demographics, and increases in consumer responsibilities (Braunstein & Welch, 2002; Hilgart & Hogarth, 2003; Hopley, 2003). Since the 1990s, the number and availability of complex financial products has increased for consumers. Advances in technology have increased the capacity for marketing to specific populations of individuals. The presence of large databases of consumer information has made it easier to match household characteristics and preferences with specific products. Competition and improved customer service are products of these increased marketing capabilities; however, these techniques can be misused leading to increased consumer vulnerability. Consumers may be enticed by these questionable marketing tactics to acquire financial products they do not need or that are inappropriate for their circumstances (Braunstein & Welch, 2002). Competition within the financial service industry has also increased the variety of products (e.g., basic savings accounts, money market savings accounts) offered by financial institutions and the number of nonbank providers of financial services (e.g.,

check cashers, pawn shops, rent-to-own, and auto title lenders). Although these developments have given consumers more options and flexibility in managing finances to best suit their needs, consumers who are not financially literate may have difficulty assessing their options, making uninformed choices, which then may lead to higher costs (e.g., monthly fees, overdraft charges, excessive transaction charges; Braunstein & Welch, 2002).

The focus on finance instruction has also been driven by an increase in consumer responsibility. Increased competition and flexibility have increased access to credit for younger and more diverse populations of individuals. Credit cards are being distributed to young adults prior to entering postsecondary education and to those individuals lacking a job or other source of income. As a result of this increased responsibility and lack of financial education, more and more young adults are not successfully managing their finances leading to bankruptcy (Braunstein & Welch, 2002; Hilgert & Hogarth, 2003; Hopley, 2003). The U. S. General Accounting Office (2001) reports that 6.9% of young adults age 18-24 had filed for bankruptcy in 2001, a 51% increase from 1999. Twenty nine percent of young adults ages 25-34 filed bankruptcy in 2001, a 38% increase from 1999.

Another factor impacting the increased emphasis on teaching finance skills is changing demographics. The nation's population has become increasingly diverse in the past decade. Often these diverse populations (e.g., immigrants, individuals with disabilities) are not familiar with financial practices in the United States or lack access to financial institutions (Braunstein & Welch, 2002; Hopley, 2003). Level of education, language, and other cultural barriers may discourage these consumers from establishing relationships with banking institutions and acquiring banking services. Instead,

consumers seek other means of conducting basic transactions such as cashing checks or obtaining loans from less traditional providers (e.g., check cashers, pawn shops, rent-to-own, and auto title lenders) which generally charge higher fees (GAO-10-518, 2010).

The increase in consumer debt over the past several decades and low household savings rates indicate a need for better financial education. Having knowledgeable consumers who make informed decisions is vital to an effective and efficient marketplace (Hilgart & Hogarth, 2003). Over the past two decades, the increase in consumer spending (i.e., individuals spending more than they are taking in), increase in personal debt, and decrease in saving as reported by the Federal Reserve Board (2009) have caught the attention of many national organizations and entities. In fact, The Jump\$tart Coalition for Personal Finance was founded in 1996 by a group of corporate, non-profit, academic, government, and other agencies to promote financial literacy and improve the quality and extent to which personal finance skills were taught in public schools. In addition, the U.S. Department of Treasury, the U.S. Department of Labor, the Federal Reserve System, and the Securities Exchange Commission have all partnered with this coalition to improve financial literacy among our nation's youth (Fox, Barholomae, & Lee, 2005; Jump\$tart Coalition, 2010). Other efforts to increase financial literacy of students include establishing the Office of Financial Education by the U.S. Treasury Department and No Child Left Behind Act (2001), which committed federal funding for developing innovative personal finance programs in schools. The need for increased financial education is further validated by its inclusion in the blueprint for reauthorization of the Elementary and Secondary Education Act (2010). The blueprint calls for a more complete education stressing the importance of preparing the nation's youth to be contributing citizens in the U.S. democracy and to thrive in a global economy. To do this

the current administration suggests improving teaching and learning in all content areas including finance (U.S. Department of Education, 2010).

Many states have already committed to improving teaching and learning in the area of finance by adopting personal finance content standards and holding teachers accountable for teaching these skills. Recently, the Council for Economic Education (2009) reported 44 states had personal finance content standards, an increase of 23% between 1998 and 2009. Of these 44 states, 34 required schools to implement those standards, a 20% increase from 1998, 15 states required a personal finance course to be offered, a 15% increase from 1998, 13 states required a personal finance class be taken for graduation, and nine states required testing in personal finance, an average 10% increase from 1998. Although all states have not conformed to these standards, these statistics reveal a movement in that direction.

The state of financial skills in today's youth. In an attempt to examine the current status of financial skills among our nation's youth, the Jump\$tart Coalition has conducted a biennial survey since 1997. In the most recent survey, Mandell (2008) assessed 6,856 high school seniors in 40 states on their knowledge of personal finance using a 31-question test to obtain an overall financial literacy score. Financial literacy scores of high school seniors in 2008 were lower than any senior class since 1997. Overall mean scores in 1997 were 57.6. In 2000, mean scores were 51.9. In 2002, mean scores fell to 50.2. There was a slight increase in 2004 and 2006 (i.e., mean scores of 52.3 and 52.4); however, mean scores dropped to 48.3 in 2008. Only 4.7% of the 6,856 high school seniors surveyed scored a grade of "C" or better, while the majority (i.e., 73.9%), failed the assessment. Although Mandell (2008) did not specifically examine results for students with disabilities, he found no gender-based differences and minimal race-based

differences. He also noted minimal differences in scores of students from various socioeconomic backgrounds. Mandell concluded that lack of financial literacy skills is a national problem rather than one of race or poverty.

The Jump\$tart's Survey of Financial Literacy Among High School Students identified several factors that may have contributed to a student's overall financial literacy scores. Mandell (2008) found that while 35% of high school seniors used a credit card (i.e., their own or their parents), students who did not use a credit card (i.e., 65.3%) scored higher than their peers who used a credit card (i.e., 50% compared to 45%). In contrast, students who used ATM/debit cards scored higher than students who did not use an ATM/debit card and scored 6% higher than students who used a credit card to make purchases. When student scores were examined by their subcomponents (i.e., income, money management, savings and investing, spending) students scored the poorest in money management with an average score of 41%. When examining subject expertise by money management education and perceived knowledge, Mandell found that students who participated in interactive and relevant financial literacy instruction tended to score higher on the financial literacy test than students who did not.

Summary of personal finance. Personal finance education for all students has become increasingly emphasized over the past several years. Advances in technology, changes in consumer demographics, and increases in consumer responsibility are all factors that have influenced this trend. The increase in consumer debt over the past several decades and low household savings rates indicate a need for financial education. Having knowledgeable consumers who make informed decisions is vital to an effective and efficient marketplace (Hilgart & Hogarth, 2003).

Unfortunately, knowledge of personal finance concepts is at an all time low for high school seniors. Recently, the majority of students failed an assessment of personal finance skills (Mandell, 2008). Money management, in particular, was an area in which students were struggling (i.e., average scores on money management subcomponent equaled 41%). Lack of financial skills among high school students (Mandell, 2008), combined with increases in consumer spending (i.e., individuals spending more than they are taking in), increases in personal debt, and decreases in saving as reported by the Federal Reserve Board (2009) has caught the attention of many national organizations and entities and sparked a movement to educate students about financial literacy and personal finance skills in public schools. As a result, there is a growing need to teach all students including those with disabilities personal finance skills.

Teaching Personal Finance Skills

Results of JumpStart surveys (Mandell, 2008) have illustrated a need for education in personal finance for all high school students. However, to date, little research has been conducted to identify effective practices to teach personal finance skills. In one study, Danes, Huddleston-Casas, and Boyce (1999) examined the effectiveness of the High School Financial Planning Program (HSFPP) curriculum on the financial skills of teens. They used a pre/posttest design to measure the impact of the curriculum on student financial behaviors. Results showed a significant increase ($p=.001$) in tracking expenses, comparing prices, and saving and budgeting as a result of participation in the curriculum. Results also showed a significant increase in student confidence about making decisions that dealt with their money. Teachers who participated in the study observed noticeable changes in student financial knowledge, attitudes, and behavior after participating in the curriculum. Most changes observed by

teachers were in the areas of consumer credit, car insurance, time value of money, and tracking expenses. Dane et al., (1999) conducted a three month follow-up with students who participated in the curriculum and found scores increased significantly ($p=.001$) from the time the course ended. While results of this study were not disaggregated for students with disabilities, research on teaching financial literacy, in particular personal finance skills (e.g., purchasing, checking and banking, ATM/debit card use, checkbook reconciliation) has been conducted with students with disabilities.

Teaching purchasing skills. The majority of research in teaching personal finance to students with disabilities has focused on purchasing skills. Xin, Grasson, Dipipi-Hoy, and Jitendra (2005) conducted a meta-analysis to examine the effectiveness of purchasing skills instruction for individuals with disabilities. Purchasing skills were taught for a variety of types of settings (e.g., grocery store, vending machines, and restaurants). Results indicated that purchasing skill instruction was moderately effective in teaching individuals with an intellectual disability to make independent purchases. Participants maintained skills learned for at least one week and up to five months and were also able to generalize purchasing skills to new contexts. Strategies used to teach purchasing included modeling/verbal instruction, faded prompt strategies, time delay, system of least prompts, and money adaptation. Money adaptation strategies (e.g., next dollar strategy, calculator use) were the only strategies that had a significant effect on purchasing skill acquisition. Other studies conducted since the Xin et al. (2005) meta-analysis support their findings (Ayers, Langone, Boon, & Norman, 2006; Cihak & Grim, 2008).

First, Ayers, Langone, Boon, and Norman (2006) conducted a study to teach purchasing skills to students with an intellectual disability in simulated and community-

based settings. They used a multiple probe across participants design to measure the impact of a computer-based instructional program on students' ability to use the next-dollar strategy to accurately hand the cashier the correct amount of a purchase. Results showed the computer-based program was effective in teaching three out of the four participants to effectively use the next-dollar strategy in classroom and community-based settings.

Second, Cihak and Grim (2008) conducted a study to teach purchasing skills using the next-dollar strategy to students with autism and a moderate intellectual disability. They used a multiple baseline across behaviors and settings to measure the effects of the next-dollar strategy on independent purchases made by students. Results showed students successfully acquired, maintained, and generalized the skill of using the next-dollar strategy to make independent purchases.

Teaching checking account and banking skills. Strategies for teaching other personal finance skills, such as bank interactions (Bourbeau, Sowers, & Close, 1986) and use of a checking account (Davies, Stock, & Wehmeyer, 2003; LaCampagne, & Cipani, 1987; McDonnell & Ferguson, 1989; Zencius, Davis, & Cuvo, 1990) have also been found to be effective. First, Bourbeau, Sowers, and Close (1986) conducted a study to teach students with a mild intellectual disability to make withdrawals and deposits at a bank. They used a multiple baseline across participants design to examine the effects of simulation and in-vivo training on independent performance of banking operations (i.e., deposits, withdrawals). Results indicated that all participants acquired and maintained the skills of making deposits and withdrawals at a bank. Results also showed students generalized skills to community banks including one with procedures quite different from the training site.

Second, LaCampagne and Cipani (1987) conducted a study to teach adults with a moderate intellectual disability to write checks, record checks, and mail bills. They used a multiple baseline across skill area design to measure the impact of forward chaining and partial tasking on rate of incorrect responses. Results showed forward chaining was effective in reducing the rate of errors produced by participants when paying bills.

Third, Zencius, Davis, and Cuvo (1990) evaluated the effects of a personalized system of instruction (PSI) on teaching money management skills to individuals with a mild intellectual disability. They used a multiple probe across instructional units design to measure the impact of PSI on check writing, completing deposit slips, and reconciling a checkbook. Results indicated that after training, participants performed skills with 100% accuracy. During a four-week follow-up, seven of eight participants maintained skills and six participants maintained the skill up to 10 weeks after intervention ended.

Finally, Davies, Stock, and Wehmeyer (2003) examined the effects of a specially designed money management software prototype aimed at improving personal financial management skills necessary for using a checkbook. They used a within subjects design to measure the impact of this money management prototype on check writing and expense tracking skills of adults with a moderate intellectual disability. Results showed that when participants used this money management program they had significantly fewer errors in writing checks, recording checks into the register, and maintaining the balance.

Teaching ATM/debit card skills. Personal finance skills have expanded with the use of technology. People can now choose to use an ATM card to conduct bank operations and make purchases in addition to using traditional methods of banking (e.g., writing checks). A number of studies have been conducted on teaching students with

disabilities to use an ATM/debit card (Alberto, Cihak, & Gama, 2005; Cihak, Alberto, Kessler, & Taber, 2004; Cihak, Alberto, Taber-Doughtry, & Gama, 2006; McDonnell & Ferguson, 1989). First, McDonnell and Ferguson (1989) conducted a study to teach students with a moderate intellectual disability to make a withdrawal from an ATM and to write a check and cash it at a bank. They used a multi-element design to compare the effects of a decreasing prompt hierarchy procedure with a constant time delay procedure on percentage of steps performed correctly when making a withdrawal from an ATM or writing and cashing a check at the bank. Results indicated both procedures (i.e., decreasing prompts, time delay) were effective in producing reliable use of an ATM and check writing to withdraw money from the bank.

Second, Mechling, Gast, and Barthold (2003) used simulated instruction using a computer-based program to teach students with a moderate intellectual disability to make purchases using a debit card. They used a multiple probe across students design to evaluate the effectiveness of a computer-based simulation on percent of steps performed correctly by students on a task analysis. Results showed all students acquired and maintained skills necessary to use a debit card to make purchases using the computer-based simulation strategy.

Third, Cihak, Alberto, Kessler, and Taber (2004) conducted a study to teach students with a moderate intellectual disability to use a debit card to withdraw money from an ATM and to make a purchase. They used a multiple probe across students design to examine instructional scheduling arrangements of strategies combining simulated instruction and community-based instruction (CBI) to teach students to use a debit card to withdraw money from an ATM and to purchase items at a store. Results showed that during each scheduling arrangement students acquired, generalized, and maintained the

skill of using a debit card; however, the combination of simulation instruction and CBI on the same day was found to be the most effective schedule for task acquisition.

Fourth, Alberto, Cihak, and Gama (2005) used an alternating treatment design to compare the effectiveness of two classroom simulation procedures in conjunction with CBI (i.e., static picture prompts and video modeling) to teach students to use a debit card to withdraw money from an ATM and to make a purchase. Results indicated that students demonstrated fewer errors when using the debit card and reached criterion in fewer instructional sessions with the use of static picture simulation.

Lastly, Cihak, Alberto, Taber-Doughtry, and Gama (2006) conducted a study to teach students with a moderate intellectual disability to use a debit card to withdraw money from an ATM and to make a purchase. They used an adapted alternating treatment design to examine the effects of static picture prompts and video prompts in group instructional format. Results showed that all students acquired and maintained skills necessary to use a debit card to withdraw money and to make purchases. Static picture prompts and video prompts were equally effective in teaching the skill to four of the six participants.

Teaching checkbook reconciliation. Although these studies have demonstrated students with disabilities are able to acquire, maintain, and generalize the skill of using checks or a debit card to make a purchase or withdraw money, independent money management also requires students be able to balance their accounts and make decisions regarding purchases based on their calculations (Mechling, Gast, & Barthold, 2003; Rowe, Cease-Cook, & Test, 2010). Very few studies have examined checkbook reconciliation. As stated earlier, three studies began looking at this skill with traditional methods of purchasing and bank operations (e.g., check writing). LaCampagene and

Cipani (1987) taught students to record checks written in a check register and make adjustments to the balance as each check was written. Zencius et al. (1990) taught students to reconcile their accounts by recording checks and deposits into a checkbook register and calculating the balance. Finally, Davies et al. (2003) used a specially designed computer program to teach students to record checks and deposits into a check register and maintain a correct balance. Each of these studies was successful in teaching acquisition and maintenance of these skills. To date, only one study has examined the skill of tracking expenses in combination with purchasing using an ATM/debit card (Rowe et al., 2011).

Rowe et al. (2011) conducted a study to examine the effects of classroom simulation using static picture prompts to teach students with mild disabilities to make purchases with a debit card and track their expenses. Results showed that students acquired, maintained, and generalized skills necessary to make a purchase using a debit card and then subtract the expense from their check registers. Although results of this study were promising, it only provided instruction on subtracting expenses. It did not include other components of tracking expenses in a check register such as reading receipts, adding deposits, and examining account amounts to make purchasing decisions.

Summary of teaching personal finance skills. Personal finance skills are used to acquire and manage income and use these skills to make wise decisions regarding how one spends and saves. Research on teaching personal finance skills is limited. Only one study has examined teaching multiple financial literacy concepts and results could not be disaggregated for students with disabilities (Danes et al., 1999). More common is research teaching specific personal finance skills to students with disabilities only (i.e., purchasing, writing checks, bank interactions, and ATM usage). Studies have included

teaching individuals with disabilities to make purchases using traditional methods such as cash and checks (Xin et al., 2005; Ayers et al., 2006; Cihak & Grim, 2008), teaching checking account and banking skills (Davies et al., 2003; LaCampagne & Cipani, 1987; McDonnell & Ferguson, 1989; Zencius et al., 1990), and use of an ATM/debit card to withdraw money from an ATM (Alberto et al., 2005; Cihak et al., 2004; Cihak et al., 2006; McDonnell & Ferguson, 1989). Other skills taught were purchasing with a debit card (Alberto et al., 2005; Cihak et al., 2004; Cihak et al., 2006; McDonnell & Ferguson, 1989; Mechling, Gast, & Barthold, 2003; Rowe et al., 2011) and checkbook reconciliation (LaCampagne & Cipani, 1987; Rowe et al., 2011; Zencius et al., 1990). All studies were effective in teaching students to acquire, maintain, and generalize the personal finance skills taught.

Teaching personal finance skills requires more than teaching students to make purchases, withdraw money from their accounts, or account for expenses only. To account for the money that flows in and out of an account, students must be able to read receipts, add in deposits to their check registers, and examine account amounts to make purchasing decisions.

Personal Finance Intervention Strategies

A variety of instructional strategies have been used to teach components of personal finance. When designing instruction for students with disabilities, it is important to consider the most effective and efficient ways to teach to maximize skill generalization to the natural setting. The three most common strategies used to teach personal finance skills (i.e., purchasing and money management skills) have been community-based instruction, simulated instruction, and general case programming.

Community-based instruction. Community-based instruction is an instructional strategy incorporated into many students with disabilities' educational programs. It is a strategy used to teach the initial acquisition of a skill, as well as a strategy to promote generalization of skill across settings. Community-based instruction (CBI; sometimes referred to as in vivo training) is defined as instruction that takes place in the community where target skills would naturally occur (Brown et al., 1983). CBI has been used as a strategy to teach a multitude of functional skills such as laundry skills (Bates, Cuvo, Miner, & Korabek, 2001; Taylor, Collins, Schuster, & Kleinert, 2002), vocational skills (Bates et al., 2001), leisure skills (Schloss, Alper, Young, Arnold-Reid, Aylward, & Dudenhoefter, 1995), safety skills (Taber, Alberto, Hughes, & Seltzer, 2002), and grocery shopping (Alcantara, 1994; Bates et al., 2001; Morse & Schuster, 2000).

Walker, Richter, Uphold, and Test (2010) conducted a comprehensive literature review of interventions using CBI to teach functional life skills. Their review included 23 studies published between 1990 and 2006 of CBI interventions to improve functional life skills of students with disabilities across grade levels (i.e., elementary, middle, high). Skills taught included, but were not limited to, purchasing items, grocery shopping, and banking skills. Findings indicated that using CBI as an instructional strategy resulted in increased acquisition of the target skill. Generalization of the newly learned skill to new places, people, or materials was measured in 12 of the studies. Positive results were found in 10 of the 12 studies.

Studies previously described in this literature review that looked specifically at personal finance skills included using CBI to teach purchasing (Westling, Floyd, & Carr, 1990), check cashing (Branham, Collins, Schuster, & Kleinert, 1999), and using a debit card to withdraw money from an ATM and to make a purchase (Alberto et al., 2005).

Westling, Floyd, and Carr (1990) examined the effects of CBI on teaching purchasing skills to students with moderate to severe disabilities. CBI proved to be effective in teaching students to make a purchase in multiple community settings.

Branham, Collins, Schuster, and Kleinert (1999) conducted a study to teach students with intellectual disabilities to cash a check. They used a multiple probe across behaviors design to examine the effects of CBI in combination with other instructional strategies (e.g., constant time delay, simulation, video modeling) on students ability to cash a check. The combination of classroom simulation and CBI was the most efficient method to teach students to cash checks.

Alberto, Cihak, and Gama (2005) compared the effectiveness of classroom simulation strategies in combination with CBI. They used an alternating treatments design to measure the effects of the simulation plus CBI strategy on student's use of a debit card to withdraw money from an ATM and to make a purchase. Results indicated students acquired and maintained skills necessary to withdraw money from an ATM and make a purchase using a debit card.

Although CBI has been found to be an effective intervention to teach life skills it may not always be the appropriate strategy to use. In some cases, CBI does not allow for sufficient training or testing opportunities. It may also not be feasible due to other barriers such as cost, transportation, and proximity of school to community sites (Neef, Iwata, & Page, 1978; McDonnell & Horner, 1985). An alternative to CBI is simulated instruction.

Simulated Instruction. Simulated instruction is defined as the use of simulations in the classroom that approximate the natural stimulus conditions and response topographies associated with performing functional skills (Bates et al., 2001). Some

benefits of using simulated instruction over CBI include: (a) efficiency, (b) cost effectiveness, and (c) opportunities for increased error correction (Nietupski, Hamre-Nietupski, Clancy, & Veerhusen, 1986; Vogelsberg, Williams, & Bellamy, 1982). That is, simulated instruction can be more efficient than CBI in that there are more opportunities for repeated testing and training during each simulated instructional session; therefore, students could acquire the skill in less time than during CBI (Bates et al., 2001; Nietupski et al., 1986; Vogelsberg et al., 1982). Simulated instruction can also be more cost effective. During CBI, the cost incurred during simulated instruction consists of teacher time and cost of materials. Teacher time is consumed with travel to and from community sites during CBI; therefore, increasing the cost of the training. Materials used during a simulated instructional session can also be reused. This is not always the case with CBI. Lastly, simulated instruction provides more opportunities for error correction. During CBI, because of time involved getting to and from community sites and the amount of time allotted at each site it is difficult to provide extensive error correction. Typically when performing skills such as purchasing at community sites, students often have others waiting in line behind them which also reduces opportunities for error correction (Vogelsberg et al., 1982).

Simulated instruction has been identified as an effective strategy for teaching several functional skills including grocery shopping (Bates et al., 2001), purchasing (Mechling, Gast, & Barthold, 2003; Rowe et al., 2011), and money management skills (e.g., deposits, withdrawals, paying bills; Cuvo, Davis, & Gluck, 1991; Zencius et al., 1990). Effects of simulated instruction have successfully been measured both in the classroom, as well as the community, demonstrating that skills learned through simulated instruction can be generalized to community settings.

Purchasing is one personal finance skill that has been taught using simulated instruction. Bates et al. (2001) evaluated the use of simulated instruction to teach students with a mild or moderate intellectual disability to shop for groceries and purchase a soft drink in a restaurant. They used a multi-factor mixed design with two repeated measures, replicated across skills. Results showed simulated instruction was effective in teaching students with an intellectual disability to shop for groceries and to purchase a soft drink in a restaurant.

Teaching other personal finance skills has also been examined (e.g., writing checks, making deposits, tracking expenses). Zencius et al. (1990) evaluated the effectiveness of simulated instruction to teach money management skills to individuals with a mild intellectual disability. Using a multiple probe across instructional units design, they measured the impact of simulated instruction on student performance of writing checks, completing deposit slips, and checkbook reconciliation. Participants performed skills with 100% accuracy after intervention and maintained the skills up to 10 weeks after the intervention ended.

Cuvo, Davis, and Gluck (1991) conducted a study to teach students with a mild intellectual disability how to use a savings account, pay bills, and use money orders. They used a two-factor mixed design with one repeated measure to examine the effects of simulated instruction on the percent of correctly answered problems on a paper-pencil test and correctly completed banking forms (e.g., deposit slips, passbook). Results indicated that there was a statistically significant (i.e., $p < .001$) difference in student scores from pre to posttest and that gains were maintained up to one month after intervention had ended.

Computer-based simulations have also been used to teach use of debit cards for making purchases. Mechling et al. (2003) conducted a study to teach students with moderate disabilities to use a debit card to make a purchase. They used a multiple probe across students design to measure the impact of computer-based simulation on student's ability to make a purchase using an automated debit machine in a community store. Results showed that simulated instruction using the computer-based program in the classroom was effective in teaching students with a moderate intellectual disability to use a debit card to make a purchase in community stores.

Rowe et al. (2011) also taught students with a mild intellectual disability to use a debit card to make purchases using simulated instruction with a researcher-made automated debit machine. Results also supported simulation as an effective instructional strategy. Students demonstrated skills necessary to make a purchase using a debit card in community stores and demonstrated skills to subtract their expense from their check registers.

CBI versus simulation. Studies have been conducted to compare the effects of using CBI only, simulated instruction only, and a combination of the two (Bates et al., 2001; Cihak et al., 2004; McDonnell & Ferguson, 1988; Neef et al., 1990; Nietupski et al., 1986). Results of these studies indicated both strategies are effective in teaching various functional life skills. Bates et al. (2001) concluded that although participants acquired skills of grocery shopping, purchasing at a restaurant, laundry, and janitorial skills as a result of simulated instruction, none of the participants exceeded 90% accuracy in a community setting. Participants only exceeded 90% independent performance of skills following CBI. Bates et al. also concluded that level of disability played an important role in which method was more effective. Students with a mild intellectual

disability performed better than those with a moderate intellectual disability during simulated instruction only.

Cihak et al. (2004) examined instructional scheduling arrangements of strategies combining simulated instruction and CBI to teach students to use the debit card to purchase items. Results showed that during each scheduling arrangement students acquired, generalized, and maintained the skill of using a debit card to make a purchase; however, the combination of simulation instruction and CBI on the same day was found to be the most effective schedule for task acquisition.

McDonnell and Ferguson (1988) examined the effectiveness and efficiency of CBI and simulation plus CBI in teaching students to use the next-dollar strategy to make a purchase. Results indicated that student skill performance increased following CBI and simulation plus CBI. Numbers of errors during each session were greater for participants who engaged in simulation plus CBI training as opposed to CBI only. Students who participated in simulation plus CBI training required more training trials.

Using a combination of simulated instruction and CBI has demonstrated enhanced student skill performance (Bates et al., 2001; McDonnell & Ferguson, 1988; Neef, Lensbower, Hockersmith, DePalma, & Gray, 1990). The primary argument for using CBI as a teaching strategy is to maximize the potential for skill generalization (Bates et al., 2001). Theoretically, if simulations adequately represent the variety of stimulus and responses associated with the community setting (i.e., general case programming), then generalization should occur (as cited in Bates et al., 2001).

General case programming. General case programming is defined as behaviors performed by a teacher that increase the likelihood that skills learned in one setting will be successfully performed with different stimuli and/or in different settings from those

used during training (Horner, Sprague, & Wilcox, 1982). General case programming allows teachers to teach students to discriminate between stimulus and response classes in order to perform newly learned skills across materials and settings. To increase the likelihood that skills learned in one setting with certain instructional materials generalize to another setting and other materials it is important to follow general case programming guidelines (Horner et al., 1982; Nietupski, Hamre-Nietupski, Clancy, & Veerhusen 1986). The first step in general case programming is to define the instructional universe. The instructional universe refers to all stimulus situations in which a student will be expected to produce a certain behavioral outcome (e.g., purchasing, tracking expenses). By conducting a general case analysis the amount of behavior required by an activity and the variation in stimulus situations where the activity may occur can be determined. Simulations should include as many of the stimulus and response variations presented in community settings as possible to maximize skill generalization. The second step in general case programming is to systematically manipulate the simulations to provide a sufficient number of training examples. Third, performance in community settings should be measured and this information should be used to modify simulations as necessary. Several studies have used these procedures to teach functional skills like riding a bus (Neef et al., 1978), crossing the street (Horner, Jones, & Williams, 1985; Page, Iwata, & Neef, 1976), washing clothes (Neef et al., 1990), and using a telephone (Horner, Williams, & Steveley, 1987). A few studies have examined general case programming and personal finance skills (Cuvo et al., 1991; McDonnell & Ferguson, 1988; Sprague & Horner, 1984).

Sprague and Horner (1984) conducted a study to compare three strategies for teaching generalized vending machine purchases (i.e., single instance, multiple instances,

general case using guidelines by Horner et al., 1982) to students with a moderate to severe intellectual disability. They used a multiple baseline across participants design to examine the impact of single instance, multiple instances, and general case procedures on student's ability to independently complete the steps in a task analysis of vending machine purchasing. Results indicated that the general case programming procedure resulted in higher student performance during instruction as well as ability to generalize to non-trained machines than the other two strategies.

McDonnell and Ferguson (1988) conducted a study to compare the effectiveness of general case in-vivo instruction and general case simulation plus in-vivo instruction to teach students with a moderate intellectual disability to purchase items at a fast food restaurant. They used a two-level multiple baseline across subjects design to measure the effectiveness of general case instructional strategies on the percent of steps performed correctly on a task analysis of purchasing. Results indicated both strategies resulted in generalized performance in three different fast food restaurants.

Lastly, Cuvo et al. (1991) conducted a study examining simulated instruction using general case programming to teach students with a mild intellectual disability to deposit cash, deposit checks, receive cash back, pay bills, and use money orders. They defined the instructional universe for each of the response classes and provided different examples that represented the range of stimulus and responses for instruction. This method was effective in teaching students to correctly perform each of the personal finance skills taught.

Summary of personal finance intervention strategies. Purchasing and other personal finance skills have been taught primarily through the use of CBI or simulated instruction. There are many factors to consider when choosing which instructional

strategy to use (i.e., CBI or simulation). One must consider training time, opportunities for repeated instruction, cost, transportation, among others. In cases where CBI is not feasible, simulation is an effective alternative. Simulated instruction is often combined with other teaching strategies such as general case programming, modeling, prompting, and time delay. For example, Cuvo et al. (1991) used general case programming, forward chaining, modeling, and least-to-most prompts in their simulation to teach various personal finance skills. Mechling et al. (2003) incorporated video modeling, video prompting, and constant time delay into their computer simulation to teach students to make a purchase using a debit card. Finally, Cihak et al. (2006) used simulated instruction with static picture prompts and video prompts to teach students to use a debit card. These studies, among others examining strategies to teach personal finance skills, have incorporated a variety of instructional strategies into the intervention. While all combinations of teaching strategies have proven to be effective, some strategies have been found to be more efficient in teaching skills than others. For example, McDonnell and Ferguson (1989) examined the effectiveness of simulation using time delay and simulation using a system of least to most prompts on making a withdrawal using an ATM. They found that both strategies resulted in reliable performance of the target skill; however, the system of least to most prompts was a more efficient teaching strategy. Other studies have not identified one strategy as more effective than another but rather looked at the entire intervention package which included several strategies combined. For example, Aeschleman and Gedig (1985) used simulation in conjunction with role-play, verbal praise, and verbal and physical prompts to teach students about banking that showed promising results. Cihak et al. (2004) combined simulation with a system of least prompts to teach use of an ATM machine which resulted in student acquisition of skill.

Rowe et al. (2011) used simulation with static picture prompts to teach purchasing with a debit card and expense tracking. CBI and simulated instruction were both effective in teaching personal finance skills. Using a combination of simulated instruction and CBI has demonstrated enhanced skill performance among participants; however, if simulated instruction is developed using general case analysis similar results are possible.

Summary of Literature Review

Although individuals with disabilities are making gains in the areas of employment, postsecondary education, and independent living, gaps continue to exist between individuals with disabilities and their peers without disabilities (Newman et al., 2009; Wagner et al., 2005). These existing gaps in post-school outcomes for individuals with disabilities indicate a need for schools to better prepare youth for possible circumstances once they leave high school and enter the world of adulthood. It is important that students with disabilities exit high school with basic knowledge and skills to make educated decisions regarding life's demands (e.g., relationships, employment, continuing education, civic duties, community participation, and managing financial responsibilities). To be active, contributing members to society, it is imperative that students have acquired these important life skills.

One life skill area essential to independence is managing personal finances. Many adult living activities require money. In order to survive in a global economy it will be necessary to understand at least the basic concepts of personal finance. The need for individuals to acquire personal finance skills has been documented in legislation that drives education, and the establishment of national standards (Braunstein & Welch, 2002; Hilgart & Hogarth, 2003). To date, minimal research has been conducted in the area of teaching personal finance skills to youth, particularly youth with disabilities. With the

establishment of national standards and the increase in states requiring schools to teach to those standards, there is a need for continued research designed to identify effective practices for teaching these skills.

Several strategies have been found to be effective in teaching limited basic personal finance concepts (e.g., purchasing, making deposits and withdrawals) to students with disabilities. Simulated instruction is one strategy that has shown promising results in teaching these basic concepts (Cihak et al., 2006; Cuvo et al., 1991; Mechling et al., 2003; Rowe et al., 2011); however, it has not been used in isolation. It is typically been combined with other teaching strategies such as general case programming, modeling, prompting, and time delay.

Previous studies examining the use of simulated instruction to teach personal finance skills have been limited to teaching students to use a debit card to make a purchase or to withdraw or deposit money into the bank. While Rowe et al. (2011) expanded the task analysis to include not only purchasing with the debit card but also tracking the expense in a check register, for students with disabilities to be independent money managers, future research is needed to teach individuals to read receipts, add deposits, and examine account amounts to make purchasing decisions.

Therefore, the purpose of this study was to examine the effects of classroom simulation using static picture prompts on teaching students to make a purchase using a debit card and track expenses by subtracting purchases and adding deposits. This was a systematic replication and extension of the study conducted by Rowe et al. (2011) and extended the literature by examining effects of simulated instruction on generalized debit card usage and tracking expenses and deposits. It also measured a student's ability to

make decisions regarding future purchases based on the amount of money in his/her account.

CHAPTER 3: METHODS

The researcher used an instructional package that included simulation with picture prompts to teach high school students with disabilities to make a purchase using a debit card and to track their expenses in a check register. Additional measures of social validity were gathered during the study. A multiple probe across subjects design was used to measure the effects of the simulated instruction on student's acquisition and generalization of debit card usage and expense tracking.

Participants

The participants were four students enrolled in 10th through 12th grade at a rural high school in the northwestern United States. Students were selected based on the following criteria: (a) student and parent consent to participate; (b) identified with a disability in the area of learning disabilities, Autism, or emotional behavioral disorder; (c) ability to read and write, (d) ability to add and subtract decimals in their head or use a calculator; (e) the ability to identify more than and less than, (f) did not currently have a debit card or know how to use one; and (g) had a job and received a paycheck or received allowance from parents.

A record review was completed to verify disability and identify present levels of performance in math. Students and their parents were interviewed prior to the initiation of the study to determine if students currently had a debit card or knew how to use one and to inquire about sources of income to open and sustain a checking account.

Ashton. Ashton was a Caucasian 16 year old female identified as having a specific learning disability and a communication disorder. Her full scale IQ was 80 as measured by the Weschler Intelligence Scale for Children IV. Ashton was a sophomore in high school participating in the standard course of study on track to receive a standard diploma. She had not met the benchmark score for the State Math Assessment. Results of the Woodcock Johnson III indicated that she scored in the 5th percentile in Math. Ashton had the prerequisite skills needed to participate in this study. She could add and subtract three and four digit numbers with decimals in her head but often used the calculator to double check her math. She also was able to identify more than and less than.

Devon. Devon was a Caucasian 16 year old male identified as having a specific learning disability. His full scale IQ was 79 as measured by the Weschler Intelligence Scale for Children IV. Devon was a sophomore in high school participating in the standard course of study on track to receive a standard diploma. He had not met the benchmark score for the State Math Assessment. Results of the Woodcock Johnson III indicated that he scored in the 32nd percentile in Math. Devon had the prerequisite skills needed to participate in this study. He could add and subtract three and four digit numbers with decimals in his head but often used the calculator to double check his math. He also was able to identify more than and less than.

Jared. Jared was an African American 16 year old male identified as having Autism and emotional disturbance. His full scale IQ was 73 as measured by the Weschler Intelligence Scale for Children IV. Devon was a sophomore in high school participating in the standard course of study on track to receive a modified diploma. He had not met the benchmark score for the State Math Assessment. Results of the Woodcock Johnson III indicated that he scored in the 1st percentile in Math. Jared had the prerequisite skills

needed to participate in this study. He could add and subtract three and four digit numbers with decimals in his head but often used the calculator to double check his math. He also was able to identify more than and less than.

Candace. Candace was a Caucasian 16 year old female identified as having a specific learning disability. Her full scale IQ was 75 as measured by the Weschler Intelligence Scale for Children IV. Candace was a sophomore in high school participating in the standard course of study on track to receive a standard diploma. She had met the benchmark score for the State Math Assessment. Results of the Woodcock Johnson III indicated that she scored in the 22nd percentile in Math. Candace had the prerequisite skills needed to participate in this study. She could add and subtract three and four digit numbers with decimals in her head but often used the calculator to double check her math. She also was able to identify more than and less than.

Setting

Intervention and data collection took place in the students' high school transition office. Within the office, two centers were created. The first center was for teaching students to make purchases. It consisted of a table and two chairs and a researcher-made, simulated debit card machine. The second center was considered a banking center where students went to record purchases and deposits in their check registers. It consisted of a small desk and a chair. It was equipped with a pencil, calculator, and each student's check register.

Generalization probes were conducted in community locations students frequently visited. Community sites within a ten mile radius of the high school were examined to determine which stores accept debit cards as a form of payment. The researcher provided students with a list of the stores that accept debit as a form of payment, and asked

students to choose five places they visit most often (see Appendix A). The top five rated sites were used to collect generalization probe data during this study (i.e., Safeway, Walgreens, Dollar Tree, Wal-mart, Goodwill). Generalization probes were collected once during baseline, once during intervention, and three times post-intervention (i.e., 1st, 3rd and 5th week after the end of intervention). During each community probe session, each student chose a different community site to go and make a purchase. The same five locations were used for each student; however, the order in which they visited these locations varied based on the individual preferences of the student on the day of the community probe. No store was visited twice during the duration of the study. Debit card machines at each of the community sites differed slightly. The primary difference was the direction in which the card was swiped to begin the transaction. Two of the sites required the card to be swiped in the same manner as the researcher-made debit card machine. The remaining three differed. One required the card to be swiped at the top of the machine with the card held vertically with the black strip facing you. The last two machines required the card to be held vertically but swiped down the side with the black strip facing the machine. Another difference in the machines was the written prompts appearing on the screen of the debit card machine at the beginning of the transaction. Two machines required participants to select debit on the screen before proceeding through the remaining steps of the transaction. The remaining machines included the same prompts as the researcher-made debit card machine. The last difference noted, was how the buttons on the machines were labeled. Only one machine differed from the simulated machine in this way. The yes and no buttons were not labeled on this machine. Instead, the buttons were solid black and located underneath the words yes and no on the screen.

Generalization of the track expense portion of the task analysis was conducted in a small workroom located within the transition office. The workroom had a table with four chairs, a pencil, calculator, and the student's check register.

Materials

Materials used in this study included a researcher-made simulated debit card machine (see Appendix B), instructional scripts, a check register, student debit cards, receipts, calculator, and a pencil or pen. Lessons were scripted in order to control the instructional design and ensure high levels of procedural fidelity (Cooke, Galloway, Kretlow, & Helf, 2011; Vadasy, Sandars, & Peyton, 2006; Vadasy, Sanders, & Tudor, 2007). To maximize instructional effectiveness of the classroom simulation, the researcher followed guidelines for effective use of simulation suggested by Nietupski et al., (1986). General case analysis was used to develop the researcher-made debit card machine and design materials to be used in the simulation (i.e., receipts, deposit slips; Horner, Sprague, & Wilcox, 1982). See Appendix C for an example of the general case analysis for the debit card machine and Appendix D for the general case analysis of receipts.

First, the researcher examined all stimulus situations in which students could use a debit card to make a purchase within a 35 mile radius of the school. The stimulus situations included chain stores that could be found throughout the country (e.g., Walmart, Dollar Tree, Home Depot) as well as stimulus situations unique to the geographical area (e.g., Post Office, Safeway). The researcher visited locations that accepted debit cards as a form of payment in this rural community to examine the various stimulus and response variations needed to operate the debit machine accurately and define the amount and type of behavior required to make the purchase using a debit card.

The researcher also examined the different response topographies used to activate the debit card machine (e.g., direction to swipe card, key pad, touch screen). The researcher identified exceptions such as self check-out lines. These situations required some deviation from the generic response chain and are lower probability. However, these situations are likely to occur with individuals who make purchases with a debit card on a regular basis and needed to be included in the instructional materials to ensure generalization of skill.

Next, the researcher conducted a general case analysis of receipts obtained from making purchases with a debit card. Receipts were examined to determine where the name of the store was located, where the date was located, how the date was written, where to find the total sale, and variations of words used to describe the total amount purchased. Receipts were obtained from various locations found in the community as well as surrounding cities that students may visit. The researcher also examined the receipts for irrelevant information included and varied this information across teaching examples to minimize the probability that responding will come under the control of these irrelevant stimuli. Irrelevant stimuli included phone numbers, logos, sweepstake advertisements and/or sale associate names.

Researcher

The researcher in this study was a third year doctoral student in special education at UNC Charlotte with a primary focus of secondary transition. She was working for the National Post-School Outcome Center for Students with Disabilities providing technical assistance to states regarding collecting post-school outcome data and using data for program improvement. The researcher had a Master of Arts degree in Special Education

and 12 years experience in public high schools including eight years as a transition specialist.

The researcher designed all materials for simulated instruction, wrote instructional scripts, and planned intervention and data collection procedures through consultation with her dissertation committee chair and other committee members. She trained the interventionist on teaching procedures and data collection, collected interrater data on all variables in the study, collected procedural fidelity data on the interventionist, and interpreted and reported results. The researcher also coordinated the agreement to conduct research with the school district and high school personnel, gained IRB approval, and communicated plans and progress with her dissertation research committee.

Interventionist

Instruction on debit card usage and tracking expenses was provided by the paraprofessional assigned to provide transition services through the Youth Transition Program (YTP; Benz, Lindstrom, & Latta, 1999) in the school district. The paraprofessional was a female with three years experience as a transition specialist in YTP. She had completed one and a half years at the University of Houston and participated in 60 hours of training as a professional coach at Coach University. She had been a life coach for the past 17 years. Prior to being a transition specialist and life coach, she had a career in real estate management.

The interventionist was trained to use the simulated materials and follow instructional and probe scripts during four 30-minute sessions. During the first session, the researcher provided the interventionist with an overview of the project and an introduction to using scripted lessons. The researcher also provided the interventionist with a researcher-made notebook. The notebook provided an overview of the basic

components of the proposed study, daily probe scripts, daily instructional scripts, and materials needed for each instructional session. The second session focused on following the scripted lesson and using the simulated materials. After the researcher reviewed the lessons with the interventionist, she modeled the intervention procedures for the interventionist and provided opportunities for the interventionist to ask questions and practice. During the final two sessions the interventionist practiced following the scripted lesson using the simulated materials. During the third session the researcher modeled the procedures, lead the interventionist through the procedures, and then tested the interventionist on the procedures using instructional and probe scripts as procedural fidelity checklists (see Appendix E & F). During the last training session the interventionist went through the procedures alone while the researcher observed using each procedural fidelity checklist. Once the interventionist scored 90% or better on the procedural fidelity checklists, she was allowed to begin intervention with students.

Data Collection Procedures

Dependent Variable. The primary dependent variable for this study was using a debit card to make a purchase and tracking expenses in a check register. The dependent variable was measured by counting the total number of steps completed correctly on a 20-step task analysis of debit card usage and tracking expenses (see Appendix G). The 20-step task analysis involved four distinct skills, determining if enough money is in the account to make a purchase, using the debit card, tracking debits in a check register, and tracking deposits in a check register. Step one was related to determining if there is enough money in the account to make a certain purchase. Students were given either the cost of one product or multiple products and asked to determine if they had enough money in their accounts to purchase the items. Steps two through eight were for making a

purchase using the debit card. For example, step two was to tell the cashier “debit.” Step three was to “swipe the card.” Step four was to enter your PIN number. Steps 9 to 15 of the task analysis related to entering purchases made into a check register (i.e., withdrawals and deposits). For example, step nine was to “take receipt out of your wallet or pocket book.” Steps 10 through 13 were steps to complete to account for all debit transactions (e.g., step 10 write card for debit under first column labeled number or code, step 11 write date under date column, step 15 tally results by using the correct operation in the checkbook register). Steps 16 through 20 were steps related to entering deposits into your check register. For example step 17 was to write the date of the deposit in the date column. Step 18 was to write deposit under transaction description, and step 19 was to write the amount of the deposit in the deposit/credit column.

Generalization measures. Generalization of using a debit card to make a purchase was assessed at various community-based sites (e.g., Safeway, Wal-mart, Walgreens) using the same task analysis used in instruction. As described earlier, locations to conduct generalization probes were selected based on student responses to the survey in Appendix A. After making a purchase using their debit card, students returned to school and completed the remaining steps of the task analysis, entering their debit into the check register and calculating the balance in a small workroom located in the transition office. When students returned to school, they were handed a deposit slip to enter in their registers. On two occasions during generalization, students were given real money in which they deposited into their accounts at the bank, which was set up within the school for all students to access. They then used the real deposit receipt given to them by the bank to calculate the balance in their accounts.

Interobserver Reliability. Interobserver reliability data were gathered by the researcher. The interventionist scored the student on the primary dependent variable (i.e., student acquisition of use of debit card and expense tracking) during each probe session. At the same time, the researcher scored the student on the primary dependent variable. Interobserver reliability data were collected for 69% of probes conducted during baseline, 70% of probes conducted during intervention, and 88% of generalization probes conducted post-intervention, an average of 76% across all phases of the study. An item-by-item comparison of agreements and disagreements was conducted between the task analysis scored by the interventionist and the task analysis scored by the researcher. Agreements were divided by 20, the total number of steps on task analysis, and multiplied by 100 to yield a reliability coefficient.

Social Validity. Data were gathered to determine the social importance of the effects of the intervention and appropriateness of procedures (Fawcett, 1991; Schwartz & Baer, 1991; Wolf, 1978). To evaluate the acceptability of this intervention, information was solicited from direct consumers (i.e., students), indirect consumers (i.e., parents), and members of the immediate community (i.e., teachers; Schwartz & Baer, 1991). To validate the importance of the effects of the intervention, data were collected by surveying students and parents using a questionnaire. The student questionnaire asked each student about their perception of procedures used to teach the skill, usefulness of the skill learned, and extent to which they plan to use the skill in the future. The questionnaire consisted of questions that required students to respond with yes, no, or not sure (i.e., 1 = no, 2 = not sure, 3 = yes) as well as questions that asked students to rate themselves on a Likert scale (e.g., 1 = no ability, 2 = some ability, and 3 = complete ability; see Appendix H). Parents were also given a questionnaire (see Appendix I)

inquiring about the importance and effects of the intervention. They were asked to rate the importance of learning personal finance skills on a likert scale (i.e., 0 = not important, 1 = somewhat important, & 2 = extremely important) and to rate their child's ability to use the debit card and track their expenses in a check register on a Likert scale (e.g., 1 = not at all, 2 = unsure, 3 = somewhat, & 4 = definitely). They were also asked if they would like their son or daughter to participate in more lessons about purchasing and money management (i.e., 1 = no, 2 = yes). To validate the appropriateness of procedures, two secondary special education and two general education math teachers were asked to review the materials and contents of the instructional manual and provide feedback related to the acceptability of the intervention that had been developed. A modified version of the Primary Intervention Rating Scale created by Lane, Kalberg, Bruhn, Driscoll, Wehby, and Elliot (2009; see Appendix J) was used to assess the acceptability of the procedures. General and special education teachers were given the following information prior to agreeing to participate in the review process: (1) that the research study was being conducted at the high school, (2) the title of the study, (3) that the study was designed to teach young adults with disabilities about managing their personal finances (e.g., spending and money management), skills that can impact their future economic well-being, and (4) the time commitment for reviewing the materials.

Experimental Design

The experimental design was a multiple probe across participants design (Cooper, Heron, & Heward, 2007). Baseline data were collected for all students initially in the transition office. Following a minimum of three baseline data points, or once a stable level and trend was established, the intervention was introduced to the student demonstrating the greatest need. After the first student's performance reached criterion-

performance (20 out of 20 steps on the task analysis) two consecutive times during simulation, the student entered the post-intervention phase, where generalization data only were collected, and remaining students were administered another baseline probe. The student with the lowest score entered intervention next. This sequence continued until all students had entered and completed intervention.

Procedures

Baseline. Baseline data were collected in the transition office using the simulated materials. In addition, a generalization data point was collected in one of the community settings. In the transition office, students were given materials needed to complete tasks prior to beginning each probe. The interventionist followed a script (see Appendix E). She began each probe session by stating, “Today you are going to use your debit card to make a purchase and track your expenses. I want you to show me the steps you would take.” The interventionist began by reading a scenario included in the day’s probe script and asked the student to determine if they had enough money in their account to make the purchase. The interventionist continued by stating a purchase amount followed by the question (e.g., \$8.65, will that be credit or debit?). No additional prompts, instruction, or feedback were given. If the student did not respond within 5 seconds, the instructor asked, “Are you finished?” If the student replied yes, then the interventionist walked the student to the banking center and skipped to step 10 on the probe script. No additional prompts, instruction, or feedback were given. If the student did not respond within 5 seconds, the instructor asked, “Are you finished?” If the student replied yes, then the trial was complete. Student was scored based on the number of steps completed on the task analysis. In the community setting, the interventionist stated, “I want you to choose something from the store and make the purchase using your debit card. We will return to

school to enter the transaction into your check register.” No additional prompts, instruction, or feedback were given. Once student chose desired item to purchase and walked to the cash register, the probe began. If the student did not respond within 5 seconds, the instructor asked if they were finished. If the student replied yes, then the interventionist completed the purchase with the student’s debit card and the student and interventionist returned to school to complete the remaining portion of the task analysis. Once interventionist and student returned to school, they proceeded to a workroom located in the transition office and the interventionist provided the prompt, “Enter the transaction into your check register.” If the student did not respond within 5 seconds, the instructor asked if they were finished. If the student replied “yes,” then the trial was complete. Student was scored based on the number of steps completed on the task analysis.

Intervention. During intervention, the interventionist followed an instructional script (see Appendix F). Students were provided all necessary materials to make a purchase and track expenses for both a withdrawal and a deposit. During instruction, the interventionist sat across from the student. The researcher-made debit card machine was placed in front of the student and the student was handed their debit card. Instruction followed a model-test format. The interventionist read the case scenario included in the day’s instructional script and stated the purchasing total. She asked the student to look and listen as she completes each step. She demonstrated one step of the task analysis as she verbally said the directions, and then asked the student to complete the step independently. This sequence occurred for each step of the task analysis. For example, the third step of the task analysis was to swipe the card through the machine, being careful to make sure the magnetic strip is faced the correct way. The interventionist first

demonstrated swiping the card while saying, “I make sure the card is facing the appropriate way. I will use the picture on the machine as a guide. The black strip faces down, the card number faces up.” The interventionist then said, “Now your turn.” If no response was given within 5 seconds, the interventionist provided a verbal prompt (e.g., “what is the next step?”). If an incorrect response was given, the interventionist repeated the step. If the correct response was given, the interventionist provided immediate praise and pulled out the picture prompt in the simulated debit card machine to imitate the next screen. This model-test sequence was followed until all steps of debit card usage were complete. After the student completed the debit card transaction steps, the student was given a receipt. The student was instructed to place receipt in their wallet or pocketbook. After the student made the purchase, the task analysis was continued at the banking center in the transition office. The student was instructed to go to the banking center and enter their expenses in their check register. The student was also given a deposit slip to work with once at banking center. During instruction, the interventionist modeled the tracking expenses segment of the task analysis by first getting out her receipt and writing in her register. She then prompted the student to get out his/her receipt and write in his/her own register. For example, the interventionist pointed to the first column in the first row while pointing to her check register. The student was asked to locate the first column in the first row of his/her check registers. If no response was given within 5 seconds, the interventionist provided a verbal prompt (e.g., “Where should we start recording our transaction?”). If an incorrect response was given, the interventionist repeated the step. If the correct response was given, the interventionist provided verbal praise and continued to the next step of the task analysis. The interventionist said to student “We will first enter our debits into our check registers and then enter our deposits.

Let's begin with our debits." The interventionist modeled in her own check register. She pointed to the first column and said, "In the first column labeled number or code, we will write "card". This means that we used our debit card to make this transaction. Writing "card" also tells us this is a debit meaning we will need to subtract the amount from our account total. Now it's your turn. What do you write in the box? What does this mean?" If no response was given within 5 seconds, the interventionist provided the verbal prompt, "What should we write?" If the incorrect response was given, the interventionist repeated the step. If the correct response was given, the interventionist provided verbal praise and continued to the next step of the task analysis. Lastly, the interventionist modeled the steps of adding deposits into the check register. For example the interventionist said, "Deposits are the opposite of expenses. Rather than subtracting them from your account balance you will add them. When you add deposits into your check register you will write the date, the transaction description, and the amount of the deposit. Remember, instead of subtracting from the balance you will add the amount to the balance. The first thing you do is write the date of the deposit. This is the date that money is automatically deposited into your account. For this lesson you will use today's date. What is today's date?" If no response was given within 5 seconds, the interventionist provided the verbal prompt, "What is the date?" If incorrect response was given, the interventionist repeated the step. If correct response was given, verbal praise was provided and the interventionist continued to the next step. This sequence continued until all steps on the task analysis were complete and students had correctly entered transactions into their accounts.

Generalization. Generalization data were collected at four different community sites. Generalization probes were collected once during baseline, once during

intervention, and four times post-intervention (i.e., 1 day, 1st, 3rd and 5th week after the end of intervention). The first part of the task analysis, making a purchase was conducted in the community. The second portion, tracking expenses, was conducted in a workroom located in the transition office. Students were able to purchase an item of their choice costing no more than \$5.00. The cost restriction was necessary to ensure enough money remained in the student's real banking account for the duration of the study.

During each community probe, students went to a community site to make a purchase. Prior to students approaching the register to make the purchase, the interventionist informed the cashier at the site that students were learning how to use the debit card and asked if she/he would allow the interventionist to provide any necessary prompts. Each student was instructed to choose an item to buy and make the purchase. The students chose his/her item to purchase and walked to the counter. Once the student arrived at the cash register, the cashier started the transaction by asking the student if they would be paying with debit or credit or a written prompt was on the debit card machine. The student then followed the steps of the task analysis until the transaction was complete. The interventionist did not provide any prompts, instruction, or feedback. If students did not respond, the interventionist asked if they were finished. If the student said yes, then the interventionist said OK. During baseline, if a student did not complete the transaction with their debit card, the interventionist made the purchase for them with the student's debit card and they returned to school. Once at school, students reported to the workroom. Students were provided with the materials necessary to enter the transaction into their check registers. Students were asked to enter the transaction into their check registers and calculate the balance. If student did not respond within 5 seconds the interventionist asked if he/she was done. If a student said "yes," then students

were handed their deposit slips and asked to enter the deposit. If student did not respond within 5 seconds the interventionist asked if he/she was done. If a student said “yes,” then the trial was complete.

Procedural Fidelity. Procedural fidelity data were gathered on 69% of probes conducted during baseline, 70% of probes conducted during intervention, and 88% of generalization probes conducted post-intervention, an average of 76% across all phases of the study. During probe sessions, the researcher scored the probe steps delivered by the interventionist using the probe script as a procedural fidelity checklist (see Appendix E). The researcher checked the boxes for a correctly completed step and left the box blank for a step not completed or incorrectly completed. The number of checked boxes were added, divided by 40, and multiplied by 100 to calculate the percent of procedural fidelity during probe sessions. During instruction, the researcher scored the instructional steps delivered by the interventionist using the instructional script as the procedural fidelity checklist (see Appendix F). The researcher followed the same procedural fidelity procedures as with the probe sessions. The number of checked boxes were added, divided by 91, and multiplied by 100 to calculate the percent of procedural fidelity during instructional sessions.

CHAPTER 4: RESULTS

Findings of the study are presented below. First, results for interobserver reliability and procedural fidelity are presented, followed by results for each research question.

Interobserver Reliability

Interobserver reliability data were collected for 69% of probes conducted during baseline, 70% of probes conducted during intervention, and 88% of generalization probes conducted post-intervention, an average of 76% across all phases of the study. The interventionist scored the student on the primary dependent variable (i.e., student acquisition of use of debit card and expense tracking) during each probe. At the same time, the researcher scored the student on the primary dependent variable. An item-by-item comparison of agreements and disagreements was conducted between the task analysis scored by the interventionist and the task analysis scored by researcher. Agreements were divided by 20, the total number of steps on task analysis, and multiplied by 100 to yield a reliability coefficient. Interobserver agreement was 100% for all phases of the study.

Procedural Fidelity

Procedural fidelity data were gathered on 69% of probes conducted during baseline, 70% of probes conducted during intervention, and 88% of generalization probes conducted post-intervention, an average of 76% across all phases of the study. For probes in baseline, intervention, and post-intervention, the researcher scored the probe steps

delivered by the interventionist using the probe script as a procedural fidelity checklist (see Appendix E). The researcher checked the boxes for a correctly completed step and left the box blank for a step not completed or incorrectly completed. The number of checked boxes was totaled, divided by 40, and multiplied by 100 to calculate the percent of procedural fidelity during all probe sessions. Procedural fidelity for probes was 100%.

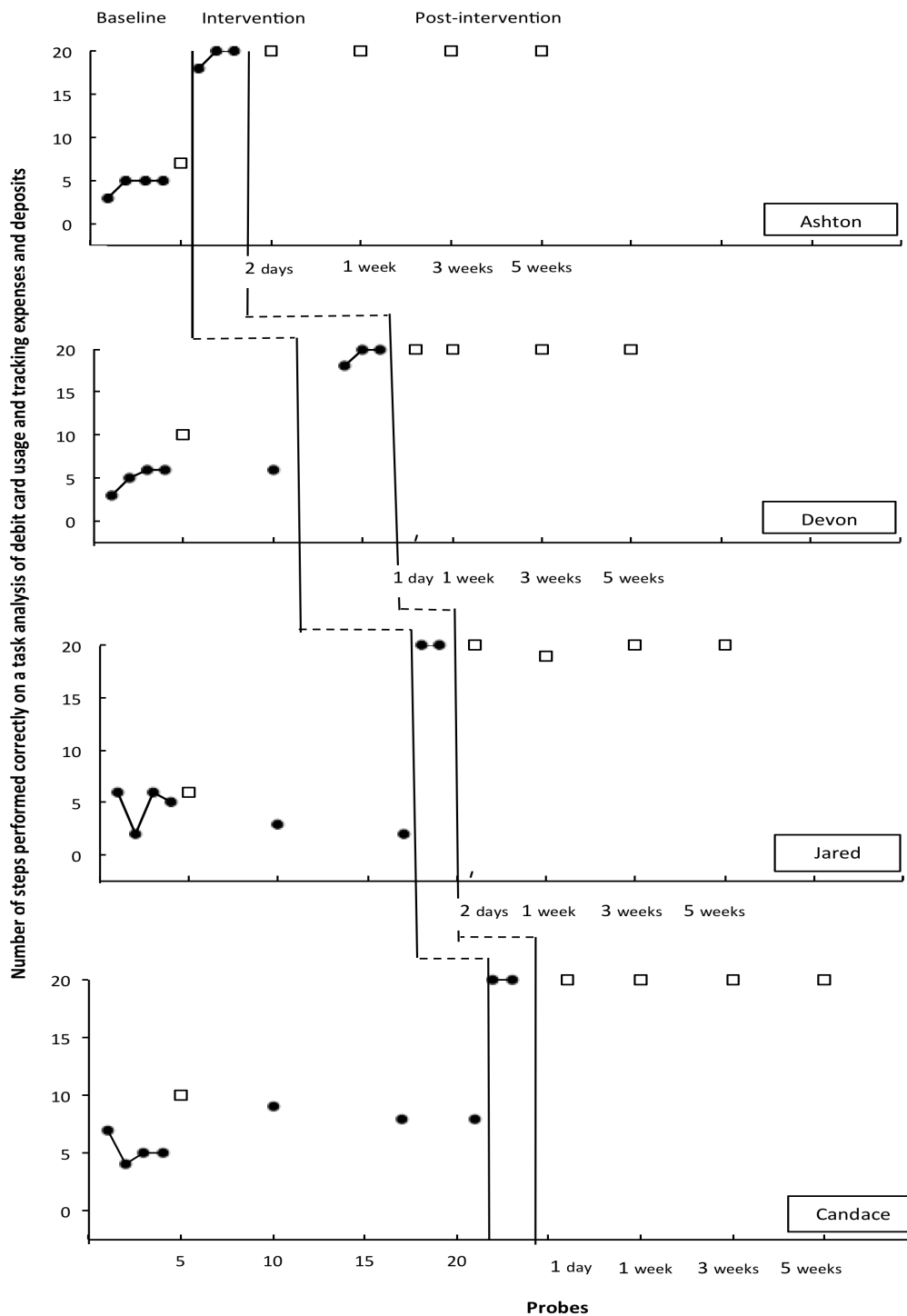
During instruction, the researcher scored the instructional steps delivered by the interventionist using the instructional script as the procedural fidelity checklist (see Appendix F). The number of checked boxes were totaled, divided by 91, and multiplied by 100 to calculate the percent of procedural fidelity during instructional sessions. Procedural fidelity was 100% during intervention.

Research Question 1: What was the effect of classroom simulation using picture prompts on acquisition of skills to use a debit card and track expenses?

Research Question 2: What was the effect of classroom simulation using picture prompts on the generalization of skills to untrained community settings?

Research Question 3: What was the effect of classroom simulation using picture prompts on the generalization of skills to untrained debit machines?

Results for each participant are presented in Figure 1. The graph shows the number of steps performed correctly on a task analysis of debit card usage and tracking expenses and deposits for all four participants across baseline, classroom simulation, and post-intervention. Results indicated a functional relation between classroom simulation using static picture prompts and teaching students identified with a learning disabilities, emotional disabilities, and autism to make purchases with a debit card and track expenses and deposits.



Note: Open squares represent probes taken in generalization settings

Ashton. During baseline, Ashton's scores ranged from 3 to 5 with a mean of 4.5 correct responses. Ashton was able to answer the question about whether or not she had

enough money to make a purchase and swipe her card on the researcher-made debit card machine. She also inconsistently pressed no to cash back and yes to the correct amount of the purchase. She was unable to complete any additional steps to make the purchase. She was also unable to track her expenses and deposits in her check register. During classroom simulation, Ashton's scores ranged from 18 to 20 with a mean of 19.5. She was able to complete all steps of making a purchase with a debit card using the researcher-made debit card machine and track her expenses and deposits in her check register at the completion of intervention. At the generalization settings, Ashton's score for baseline was 7. Ashton was able to swipe the card on the untrained debit card machine but was unable to enter her pin number independently. She was able to choose yes or no regarding the amount and cash back. Her score two days after the completion of the intervention was 20. Ashton completed all steps of the task analysis on the untrained debit card machine and independently tracked her expenses and deposits into a check register. Lastly, her generalization scores at one, three, and five weeks post intervention were 20, 20, and 20. During generalization, Ashton was able to use four untrained debit card machines independently and track her expenses and deposits in her check register, up to five weeks after the intervention had ended.

Devon. During baseline, Devon's scores ranged from 3 to 6 with a mean of 5.2 correct responses. He was able to answer the question of whether or not he had enough money to make a purchase and swipe his card on the researcher-made debit card machine but unable to perform the remaining steps to complete the transaction. When entering his expense into his check register, Devon wrote the description of the transaction, wrote the transaction amount in the correct space, and correctly subtracted the amount from his balance. He was unable to perform any steps related to entering a deposit. During

classroom simulation, Devon's scores ranged from 18 to 20 with a mean of 19.5. He was able to complete all steps of making a purchase with a debit card using the researcher-made debit card machine, and track his expenses and deposits in his check register at the completion of intervention. At the generalization settings, Devon's score for baseline was 10. Devon was able to swipe the card on the untrained debit card machine and enter his pin number but unable to complete any other step of using the debit machine independently. He was able to complete some of the steps of the tracking expenses portion of the task analysis. Devon's score one day after the intervention ended was 20. Devon completed all steps of the task analysis on the untrained debit card machine and independently tracked his expenses and deposits into a check register. His generalization scores one, three, and five weeks post intervention were 20, 20, and 20. During generalization, Devon was able to use four untrained debit card machines independently and track his expenses and deposits in his check register, up to five weeks after the intervention had ended.

Jared. During baseline, Jared's scores ranged from 2 to 6 with a mean of 4.0 correct responses. He was able answer the question of whether or not he had enough money to make a purchase and swipe his card on the researcher-made debit card machine but unable to perform the remaining steps to complete the transaction. When entering his expense into his check register, he wrote the transaction amount in the correct space and correctly subtracted the amount from his balance. He was unable to perform any steps related to entering a deposit. During classroom simulation, Jared scored 20 out of 20 in the first two consecutive sessions. He was able to complete all steps of making a purchase with a debit card using the researcher-made debit card machine, and track his expenses and deposits in his check register at the completion of intervention. At the generalization

settings, Jared's score for baseline was 6. Jared was able to swipe the card on the untrained debit card machine but unable to complete any other step of using the debit machine independently. He was able to complete some of the steps of the tracking expenses portion of the task analysis. Jared's score two days after the intervention ended was 20. Jared completed all steps of the task analysis on the untrained debit card machine and independently tracked his expenses and deposits into his check register. His generalization scores one, three, and five weeks post intervention were 19, 20, and 20. During generalization, Jared was able to use three of the four untrained debit card machines independently. On the community probe conducted one-week post intervention, Jared required assistance in determining which way to swipe the card. He completed all other steps of making the purchase and tracking his expenses and deposits into his check register independently. During generalization, Jared was able to use three of the four untrained debit card machines independently and track his expenses and deposits in his check register, up to five weeks after the intervention had ended.

Candace. During baseline, Candace's scores ranged from 4 to 9 with a mean of 6.6 correct responses. Candace was able to answer the question of whether or not she had enough money to make a purchase and swipe her card on the researcher-made debit card machine. She was able to swipe the card on the untrained debit card machine, enter her pin number, and answer yes to correct amount and no to cash back. She only needed a prompt to press enter after her pin number in order to continue with the task sequence. She was unable to track her expenses and deposits in her check register. During classroom simulation, Candace scored 20 out of 20 during the first two consecutive sessions. She was able to complete all steps of making a purchase with a debit card using the researcher-made debit card machine, and track her expenses and deposits in her check

register at the completion of intervention. At the generalization settings, Candace's score for baseline was 10. Candace was able to swipe the card on the untrained debit card machine, enter her pin (i.e., without pressing enter afterwards), choose yes or no regarding the amount and cash back, and enter yes or no regarding the amount of the purchase. She was not able to complete the tracking expenses and deposits portion of the task analysis. In the generalization settings, her score one day after the completion of the intervention was 20. Candace completed all steps of the task analysis on the untrained debit card machine and tracked her expenses and deposits correctly. Lastly, her generalization scores at one, three, and five weeks post intervention were 20, 20, and 20. During generalization, Candace was able to use four untrained debit card machines independently and track her expenses and deposits in her check register, up to five weeks after the intervention had ended.

Research Question 4: What were the students' perceptions of the use of a simulated debit card intervention as a method for learning money management skills?

Research Question 5: What were parents' perceptions of the use of a simulated debit card intervention as a method for teaching money management skills?

Research Question 6: What were teachers' perceptions of the use of a simulated debit card intervention as a method for teaching money management skills?

To evaluate the acceptability of the intervention, social validity data were gathered from direct consumers (i.e., students), indirect consumers (i.e., parents), and members of the immediate community (i.e., teachers; Schwartz & Baer, 1991). Results will be discussed by type of consumer (i.e., students, parents, teachers).

Direct consumer perceptions. To validate the importance of the effects of the intervention, data were collected by surveying students using a questionnaire. The

researcher sat with each individual student and verbally asked the questions found on the questionnaire. Students were asked to be honest with their responses. Table 1 provides a summary of their responses.

Table 1

Intervention Acceptability Survey for Students

Question	Ashton	Devon	Jared	Candace	Average Rating
1. This would be an acceptable lesson for the high school?	3	3	3	3	3.0
2. Most high school students would participate in this type of lesson?	3	3	3	2	2.75
3. This lesson should prove to be effective in teaching students' how to use a debit card and track expenses?	3	3	3	3	3.0
4. I would suggest other students participate in this intervention.	3	3	3	3	3.0
5. I would be willing to participate in other lessons similar to this one?	3	3	3	3	3.0
6. This lesson would be appropriate for a variety of students?	3	3	3	3	3.0
7. I like the procedures used in this lesson.	3	3	3	3	3.0
8. This lesson is a good way to teach money	3	3	3	3	3.0

management skills.

9. The time and effort involved in each lesson are acceptable.	3	3	3	3	3.0
10. Overall, the lesson would be beneficial for students with disabilities in high school.	3	3	3	3	3.0
11. How would you rate your ability to use a debit card?	2	2	2	3	2.25
12. How would you rate your ability to track expenses?	3	2	2	3	2.5
13. How would you rate the usefulness of this skill?	3	3	3	3	3.0
14. How often do you think you will use this skill?	2	2	2	2	2.0

Note. Scale for questions 1-10: 1= no, 2= not sure, 3= yes; Scale for questions 11-12: 1= no ability, 2=some ability, 3= complete ability; Scale for question 13: 1= not useful, 2= somewhat useful, 3= very useful; Scale for question 14: 1= never, 2= sometimes, 3= always

Overall student ratings for the intervention were high (i.e., 3). The only question in which students differed in opinion was whether or not most high school students would participate in this type of lesson. Ratings for this question ranged from 2 to 3 with an average of 2.75. Questions 11 to 14 related to students perceptions of their ability to demonstrate skills learned and usefulness of skills. Student ratings of their abilities to use a debit card ranged from 2 to 3 with an average of 2.25. Student ratings of their abilities to track expenses ranged from 2 to 3 with an average of 2.5. Student's rating of usefulness of skill was a 3, while student's rating of how often they think they will use the skill was a 2.

Although, all four students agreed that this would be an acceptable lesson for high school, Ashton added “it may be a little hard for some.” All but Candace felt that most high school students would participate in this type of lessons. Candace felt that many high school students “didn’t really care for learning this type of skill” and that “maybe high school seniors” would be most likely to participate in these types of lessons. All students felt these lessons would prove to be effective in teaching students how to use a debit card and track their expenses. They felt the lessons would be appropriate for a variety of students including students with disabilities and said they would suggest these lessons to other students. All students liked the procedures used to teach the lessons and felt it was a good way to teach money management skills. All students thought that the time and effort that they invested into each lesson was acceptable and had interest in participating in other lessons similar to the ones learned in this study.

The way in which students perceived their ability to use a debit card and to track expenses in a check register was consistent across students. Candace felt she had complete ability to use her debit card. The remaining three students felt that they had some ability to use their debit card. Ashton felt she needed “practice in order to remember to press the enter key each time.” Jared said he is “still getting the hang of it, I want more practice.” Devon was also getting the hang of it and said he “needs more practice.” Candace and Ashton felt they had complete ability to track their expenses in a check register. Devon and Jared, on the other hand, felt they only had some ability. Again they expressed a need for further practice. When asked to rate the usefulness of the skill, all four students rated the skill as very useful. When asked how often they would use the skill all students said sometime and proceeded to tell the researcher situations in which they would not use the debit card. Ashton said, “I won’t use it when I am not in the

community.” Devon said, “Some places don’t take debit cards. It depends on the situation.” Jared said, “Depends on the amount of money I have and what I am buying. I may use cash. It also depends on my family size.” Candace said, “Sometimes I just may use cash.”

Indirect consumer perceptions. Parents were also given a questionnaire inquiring about the importance and effects of the intervention. The questionnaire consisted of five questions asking parents about the importance of the skill learned and how they perceived their child’s ability to use the debit card and track expenses. Table 2 provides a summary of responses.

Table 2

Parent Survey Questions

Question	Ashton’s Mother	Devon’s Father	Jared’s Mother	Candace’s Mother	Average Rating
1. How important is learning personal finance skills for your child to live independently?	3	3	3	3	3.0
2. Do you think it is important your child know how to use a debit card to make purchases and be able to track their expenses?	3	3	3	3	3.0
3. Has your child’s ability to use a debit card increased as a result of participating in this study?	4	3	3	4	3.5
4. Has your child’s ability to track expenses in a check register increased as a result of participating in this study?	4	3	3	4	3.5
5. Would you like your child to participate in more lessons about purchasing and money management?	1	2	2	2	1.75

Note. Scale for questions 1-2: 1= not important, 2= somewhat important, 3= very important; Scale for questions 3-4: 1= not at all, 2=unsure, 3= somewhat, 4= definitely; Scale for question 5: 1= no, 2= yes

All parents rated the importance of learning about personal finance and ability to use a debit card as a 3. Parent ratings of their child's ability to use a debit card ranged from 3 to 4 with an average of 3.5. Parent ratings of their child's ability to track their expenses in a check register ranged from 3 to 4 with an average of 3.5. Parent's desire to have their child participate in more purchasing and money management lessons ranged from 1 to 2 with an average of 1.75.

Ashton's mother felt that learning personal finance skills and knowing how to use a debit card and track one's own expenses was extremely important to living independently. While, she felt that Ashton's ability to use a debit card and track her own expenses had definitely increased as a result of participating in this study, she did not express an interest in her daughter participating in any more lessons about purchasing and money management.

Devon's father felt that learning personal finance skills and knowing how to use a debit card and track one's own expenses was extremely important to living independently. While, he was unsure if Devon's ability to use a debit card and track his own expenses had increased as a result of participating in this study, he did express an interest in his son participating in more lessons about purchasing and money management.

Jared's mother felt that learning personal finance skills and knowing how to use a debit card and track one's own expenses was extremely important to living independently. While she was unsure if Jared's ability to use a debit card and track his own expenses had increased as a result of participating in this study, she did express an

interest in her son participating in more lessons about purchasing and money management.

Candace's mother felt that learning personal finance skills and knowing how to use a debit card and track one's own expenses was extremely important to living independently. She felt that Candace's ability to use a debit card and track her own expenses had definitely increased as a result of participating in this study and she expressed an interest in her daughter participating in more lessons about purchasing and money management.

Members of the immediate community. To validate the appropriateness of procedures, two secondary special education and two general education math teachers were asked to review the materials and contents of the instructional manual and provide feedback related to the acceptability of the intervention that had been developed. A modified version of the Primary Intervention Rating Scale created by Lane et al. (2009) was used to assess the acceptability of the procedures. Table 3 provides a summary of responses.

Table 3

Intervention Acceptability Survey for Teachers

Question	Special Education Teacher 1	Special Education Teacher 2	General Education Teacher 1	General Education Teacher 2	Average Rating
1. This would be an acceptable intervention for the high school?	4	5	4	4	4.25
2. Most secondary teachers would consider this intervention appropriate?	4.5	5	4	4	4.4

3. This intervention should prove to be effective in teaching students acquisition, generalization, and maintenance of skills to use a debit card and track expenses?	5	5	5	5	5
4. I would suggest the use of this intervention to other teachers.	3	5	4	4	4
5. I would be willing to use this intervention in the school setting?	4	4	3	4	3.75
6. This intervention would be appropriate for a variety of students?	4	4	2	5	3.75
7. I like the procedures used in this intervention.	5	5	5	5	5
8. This intervention is a good way to teach personal finance skills.	5	5	4	4	4.5
9. The progress monitoring procedures are manageable.	4	5	5	5	4.75
10. Overall, the intervention would be beneficial for students with disabilities in high school.	4	5	5	4	4.5

Note. Scale: 1= strongly disagree, 2= somewhat disagree, 3= unsure, 4 = somewhat agree, 5= strongly agree

Overall, both general education teachers and special education teachers rated this intervention as an acceptable intervention for high school students. Both general and special education teachers liked the intervention and strongly agreed that the intervention would prove to be effective in teaching students acquisition, generalization, and maintenance of skills to use a debit card and track expenses. General and special

education teachers agreed that this was an acceptable intervention for high school and would consider this intervention appropriate. Three of the four teachers were somewhat sure they would be willing to use this intervention. One general education teacher was unsure if she would use it. Both special education teachers and one general education teacher agreed that the intervention would be appropriate for a variety of students. One general education teacher disagreed. Both general and special education teachers agreed that this intervention was a good way to teach personal finance skills and that the progress monitoring procedures were manageable. Both general education teachers agreed that they would suggest the use of this intervention to other teachers. Only one special education teacher agreed she would suggest the intervention to other teachers, the other special education teacher was unsure if she would suggest the use of this intervention to others.

CHAPTER 5: DISCUSSION

The purpose of this study was to (a) examine the effects of simulated instruction using static picture prompts on students' ability to make a purchase using a debit card and to track their expenses in a check register, and (b) determine if the effects of the intervention generalized to community settings. A multiple probe across participants design was used to determine the impact of the independent variable (i.e., simulated instruction) on the dependent variable (i.e., students ability to correctly complete steps on a 20 step task analysis). The intervention was implemented with four 10th grade students with learning disabilities, emotional disturbance, and autism. Results indicated a functional relation between simulated instruction and student's ability to complete a 20 step task analysis of basic financial skills (i.e., making a purchase with a debit card and tracking debits and credits in a check register), skills that will enable them to make informed decisions regarding the use and management of their money in the future. All four participants were able to generalize the skills of using a debit card to make a purchase to four untrained debit card machines in four separate community settings, as well as demonstrate the skills of tracking expenses and deposits up to five weeks following the removal of the intervention. Finally, teachers, parents, and students felt the intervention was an important skill to learn. Teachers and students felt methods used were a good way to increase a student's basic finance skills. Findings and discussion points are presented in this chapter organized by the six research questions. Lastly,

limitations of the study, suggestions for future research, and implications for practice are discussed.

Effects of the Intervention on Dependent Variables

Research Question 1: What was the effect of classroom simulation using picture prompts on acquisition of skills to use a debit card and track expenses?

Research Question 2: What was the effect of classroom simulation using picture prompts on the generalization of skills to untrained community settings?

Findings indicated a functional relation between simulated instruction and student's ability to complete a 20 step task analysis of basic financial skills (i.e., making a purchase with a debit card and tracking debits and credits in a check register). All students exhibited an immediate change in level from baseline to intervention. All four students reached mastery criteria (i.e., score of 20 out of 20 for two consecutive sessions) after participating in simulated instruction on debit card use and expense tracking.

Overall, results of the study support previous research related to teaching basic finance skills. The literature for teaching basic finance skills includes studies conducted to improve basic finance skills of individuals with disabilities (e.g., purchasing, banking). However, the researcher designed this study to extend the basic finance skills literature by making three unique contributions to the body of research. Specifically, the researcher (a) selected participants who were not previously represented in the literature related to teaching basic finance skills (i.e., students with learning disabilities, emotional disabilities, and autism); (b) measured a primary dependent variable that included unique additions to the finance skills literature (i.e., expense tracking and decision making); and (c) used a simple simulated instructional technique to teach skill and measured performance in community settings.

First, research on basic finance skills has been implemented with students with an intellectual disability participating in functional curriculums and not on-track to graduate with a standard high school diploma. Typically, students were high school students with a moderate intellectual disability (e.g., Alberto et al., 2005; Cihak et al., 2004; Mechling et al., 2003). For example, Alberto et al. (2005) and Cihak et al. (2006) conducted finance skill interventions with students identified as having a moderate intellectual disability as young as age 11. The current study extended the literature related to teaching basic finance skills by including participants with higher incidence disabilities such as a learning disability, emotional disability, and autism who were participating in the standard course of study and on-track for earning a standard high school diploma.

Second, previous studies in teaching basic finance skills only taught students to make purchases (Alberto et al., 2005; Cihak et al., 2004; Mechling et al., 2003) and did not include steps for tracking one's expenses in instruction. To date, only one study has examined purchasing with a debit card in conjunction with the more complex skill of tracking expenses (Rowe et al., 2011). Rowe et al. (2011) examined the effects of using simulation on teaching students to use a debit card to make a purchase and to track expenses by subtracting the amounts of their purchase from the total amount in their check registers, however, it did not account for other skills necessary to manage one's money (e.g., adding deposits, financial decision-making). As a systematic replication of the Rowe et al. (2011) study, this study taught additional skills. Specifically, this study examined the effects of simulated instruction on making purchases with a debit card and tracking one's expenses in a check register. It also included tracking deposits and making decisions about spending based on a student's calculations in their check registers. This basic knowledge of personal finance skills is imperative to living independently

(McCormick, 2009). Teaching multiple personal finance concepts may assist students in acquiring the skills needed to successfully manage finances to meet postsecondary goals.

Next, previous research on basic finance skills has taught students with disabilities using computers or video modeling (Mechling et al., 2003), static picture prompts (Alberto et al., 2005), or combined these techniques with other strategies such as least to most prompting, constant time delay, and community-based instruction (Cihak et al., 2004; Cihak et al., 2006 McDonnell & Ferguson, 1989). This study extended the literature by addressing limitations stated in previous studies suggesting that procedures used to teach these skills may be too complex for classroom personnel to use (McDonnell & Ferguson, 1989; Mechling et al., 2003). This study simplified teaching procedures by using scripted lessons that included reinforcement and error correction procedures. As a result, a transition specialist with minimal education training successfully implemented this study. The interventionist in this study was a paraprofessional with no formal education or training in instructional methodology. Her only formal education training included 1.5 years at a University and participation in 60 hours of training as a professional life coach. She participated regularly in district professional development related to the Youth Transition Program (YTP; Benz et al., 1999), which focused on job development for students with disabilities and coordinating services with adult agencies. Prior to this study, the interventionist participated in four 30-minute training sessions to learn how to use the simulated materials and follow instructional and probe scripts. The interventionist scored 100% on the procedural fidelity checklists her first time through probes and intervention independently. She said she felt very comfortable implementing the procedures and felt the scripts were easy to follow. She appreciated the check boxes

that allowed her to monitor her own behavior as she proceeded through the probe and intervention scripts.

Research Question 3: What was the effect of classroom simulation using picture prompts on the generalization of skills to untrained debit machines?

Simulated instruction is defined as providing instruction in the classroom that approximates the natural stimulus conditions and response topographies associated with performing functional skills (Bates et al., 2001). Simulated instruction has been found to be an effective means for teaching a variety of life skills such as crossing the street (Branham et al., 1999), laundry and cleaning (Bates et al., 2001), and purchasing (Browder et al., 1988). When teaching financial literacy skills, especially purchasing and money management, while the use of real money is optimal, it is difficult to plan for the amount of money that may be needed in order for a young person to acquire the skill of purchasing and balancing their account. Also, unless a student is employed and receiving a paycheck on a regular basis it is a challenge to have a continuous flow of money into an account to provide students enough opportunities to withdraw and deposit to independently begin managing their own accounts without the risk of overdrawing the account. For this reason, simulation was used as the method of instruction in this study. With simulations, students were able to complete as many trials as necessary to master the skill without the risk of overdrawing their accounts. This study created a simulation of a debit card machine that not only approximated the natural stimulus conditions and response topographies but was also a cost effective method for teachers to use in the classroom.

Cooper et al. (2007) defined setting/situation generalization as “the extent to which a learner emits the target behavior in a setting or stimulus situation that is different

from the instructional setting” (p. 617). According to Cooper et al., if a behavior change produced in the classroom has occurred multiple times in a generalization setting, there is evidence of response maintenance. Given the outcomes of students with disabilities and the particular skill being taught in this study, setting/situation generalization was important and a good measure of whether a student’s ability to demonstrate the skill will be durable over time (i.e., response maintenance). Not only did this study plan for generalization of the skill to a setting other than the instructional setting (i.e., community), but also the stimulus (i.e., untrained debit card machines). The researcher used general case analysis to develop the researcher-made debit card machine and design materials to be used in the simulation (i.e., receipts, deposit slips; Horner, Sprague, & Wilcox, 1982). By conducting the general case analysis, the amount of behavior required to use a debit card to make a purchase and the variation in stimulus situations (i.e., untrained debit card machines in the community) were determined. This allowed the paraprofessional to teach each of the students to discriminate between the stimulus and response classes in order to perform the newly learned skill (i.e., use of debit card, expense tracking) across materials and settings (Horner et al., 1982; Nietupski et al., 1986).

To maximize instructional effectiveness of the simulated training, the researcher followed guidelines for effective use of simulation suggested by Nietupski et al. (1986). General case analysis was used to develop the simulated debit card machine and design materials to be used in the simulation (i.e., receipts, deposit slips; Horner et al., 1982). Generalization data were collected during baseline and post-intervention to determine students’ ability to make a purchase with a debit card and track their expenses in a community setting. During this study, students made purchases at five different

community locations with varying debit card machines. One machine required students to choose debit as a form of payment on the screen before they could continue with the sequence. Machines at two of the stores required students to swipe the cards in a different direction (e.g., top of machine, card held vertical, side of the machine card held vertical as opposed to horizontal). Three of the four students demonstrated the ability to generalize the skills learned during simulation to untrained and unfamiliar debit card machines in four different community settings up to five weeks post-intervention. Jared was able to use three of the four untrained debit card machines independently. In one community location, Jared required assistance in determining which way to swipe the card. He completed all other steps independently.

Research Question 4: What were the students' perceptions of the use of a simulated debit card intervention as a method for learning money management skills?

Research Question 5: What were the parents' perceptions of the use of a simulated debit card intervention as a method for teaching money management skills?

One of the quality indicators of single subject research identified by Horner et al. (2005) relates to the social validity of an intervention. While a study must meet quality indicators related to participants, setting, dependent variable, independent variable, procedures, and results, to be considered high quality, it must also adhere to certain standards regarding social validity. First, the dependent variable must be socially important. The magnitude of change in the dependent variable resulting from the intervention must also be measured as socially important. The implementation of the independent variable must be described by the author as practical and cost effective. Finally, the quality indicators suggest that social validity is enhanced by implementation

of the independent variable by typical intervention agents, in typical physical and social context.

Where previous research in basic finance skills has not included any direct measures of social validity, this study was designed to address all the social validity quality indicators identified by Horner et al. (2005). First, data were collected from students and parents to determine the importance of learning how to use a debit card and track expenses and deposits into a check register. Both parents and students felt the skill was very useful and extremely important to living independently. Although, students felt that their skills had improved as a result of the intervention they still desired more practice using their debit card and documenting their expenses and deposits. In addition, two of the four parents had noticed a definite increase in their son/daughters skills as a result of the intervention. The remaining two parents were unsure of their student's abilities to use their debit card and track their expenses.

The third social validity measure necessary for a high quality study is a description of the intervention as practical and cost effective. According to the results of the intervention acceptability survey, the methods used in this intervention were practical and appropriate for high school students with and without disabilities. Students reported that the time and effort invested into the instruction was acceptable. Both general education teachers and special education teachers agreed that the procedures used in the intervention were an appropriate method to teach basic finance skills and could be implemented in a school setting. In addition, the cost involved in creating the instructional materials was minimal. The researcher spent less than \$5.00 creating the researcher-made debit card machine and the interventionist was able to complete an instructional session in 30 minutes. Therefore, the intervention did not incur high cost.

Finally, social validity can be enhanced by implementation of the independent variable by typical intervention agents, in typical physical and social context. This study used the school transition specialist, a paraprofessional, as the interventionist. Her responsibilities included providing transition services to the students included in the study. The intervention also took place in a typical high school office. Students visited this office regularly to meet with the transition specialist and to participate in career awareness and preparation activities. As a result, this study met all four of the social validity quality indicators suggested by Horner et al. (2005).

Research Question 6: What were teachers' perceptions of the use of a simulated debit card intervention as a method for teaching money management skills?

Many K-12 teachers are familiar with the term financial skills; however, it is a concept that is defined and interpreted differently among individuals (Networks Financial Institute, 2007). Many teachers recognize that students lack financial skills and need to be exposed to the basics (e.g., balancing checkbooks, making informed economic decisions, and staying out of debt). Although teaching finance skills has gained popularity over the years as evidenced by the number of states that have adopted personal finance standards, teachers are still challenged with lack of time, lack of curriculum requirements, and an uncertainty of where financial skills fit into their particular courses (CEEC, 2009; NFI, 2007; Tennyson & Nguyen, 2001). Other challenges teachers face in teaching finance skills and concepts are lack of materials, funding, and professional development (NFI, 2007).

Resources are available to assist in teaching finance skills, but typically need to be modified, especially for students with disabilities (NFI, 2007). This study included simple scripted lessons that included reinforcement and error correction procedures. The lessons

proved to be easy to follow and effective in teaching students how to use a debit card and track their expenses. To gain perspective from teachers about the instructional methods and materials used in this study, two special education teachers and two general education math teachers reviewed all instructional materials (e.g., instructional timeline, progress monitoring tools, scripted lessons) and completed an intervention acceptability survey. Overall, both general education teachers and special education teachers found this intervention was acceptable. They felt it was an appropriate lesson for a variety of students and a good way to teach basic finance skills. One general education teacher wrote on the intervention acceptability survey, “ I liked the varied examples, the scripts with prompts, the spiral nature of the progression, and the ability to teach a real world skill in the classroom setting.” Only one disagreement was noted on the intervention acceptability survey. The first general education teacher felt this intervention would not be appropriate for a variety of students. No reason was given as to why she disagreed with this statement.

Contributions of this Study

This study contributed to the personal finance skills literature for students with disabilities in three ways. The first contribution was the addition of students with higher incidence disabilities (i.e., learning disabilities, autism, and emotional disabilities) on track to earn a standard high school diploma. Previous studies included only individuals with intellectual disabilities served in more restrictive environments (e.g., self-contained classrooms for students with disabilities; Alberto et al., 2005; Cihak et al., 2004; Cihak et al., 2006; McDonnell & Ferguson, 1989; Rowe et al., 2011). The next contribution was a response to limitations and recommendations made in previous research (e.g., McDonnell & Ferguson, 1989; Mechling et al., 2003) that instructional procedures may have been

too complicated for most teachers to easily replicate. This study demonstrated a simplified instructional method that was not only cost effective, but was implemented by a paraprofessional with limited formal education training. Lastly, this study collected data pertinent to the social validity of the intervention; data not commonly collected or described in previous research (Alberto et al., 2005; Cihak et al., 2004; Cihak et al., 2006; McDonnell & Ferguson, 1989; Rowe et al., 2011).

Limitations and Implications for Future Research

As with any study, there were some limitations. First, this study included three Caucasian students age 16 with learning disabilities and one African American student with Autism and Emotional Behavior Disorder who lived in a small rural community in the northwestern United States. Therefore, results cannot be generalized to others due to the small number of participants and limited geographical location. Future research should include students with other disabilities from all cultural backgrounds, as well as from rural, suburban, and urban areas.

Another limitation of this study was step one of the probe script. In order to allow students to proceed through the entire task analysis during probe sessions, only purchases less than the amount in their check registers were presented. If students were presented with amounts that were more than the total amount documented in the check register they would not have been able to complete the entire task analysis including purchasing with the debit card and tracking their expense in a check register. Although, during instruction students were provided examples where they had enough money to purchase an item and examples where they did not have enough money to purchase an item to allow opportunities to make decisions about future purchases based on amounts documented in check registers, during probes students always had enough money in their accounts to

make the purchase. Future research should include decisions about purchasing that would allow students to proceed through the entire probe script, as well as purchasing decisions that would not allow them to complete the steps because there would not be sufficient funds to make the transaction. This would allow students to demonstrate that they could independently make appropriate decisions about spending based on what their budget allows.

A final limitation to this study is the lack of long-term follow-up. To ensure the generalized use of skills learned will prove durable over time, it is important to follow students over longer periods of time. Although, generalization data in this study were collected one, three, and five weeks after completion of intervention, future research should follow student's progress for longer than one month after the completion of intervention. The information gathered from follow-up probes would allow researchers to examine if the intervention was in fact effective in teaching the acquisition, generalization, and maintenance of the skill taught.

Future research should seek feedback on instructional materials from a larger number of general and special education teachers, including Career Technical Education (CTE) teachers. Personal Finance concepts are typically included in the CTE courses (e.g., personal finance, Entrepreneurship, Business Math). These teachers could provide valuable feedback regarding the feasibility and usability of the instructional materials as well as ease of incorporating this type of instruction into the general education curriculum.

Finally, future research should be conducted to examine what strategy used in this instructional package (i.e., simulation, instructional script, picture prompts) is instrumental in student acquisition of skill. As with previous studies (e.g., Cooke et al.,

2011; Vadasy et al., 2006; Vadasy et al., 2007), this study presents anecdotal evidence that the scripted lessons were easy to follow and provided a systematic way of providing instruction and a consistent method of delivering prompting and feedback. Further research is needed to examine the role of the script in the instructional package.

Implications for Practice

This study offers several implications for practice. First, in this time of standards-based education, teachers are struggling to find opportunities to teach students with disabilities both academic and transition-related skills to assist students with achieving their postsecondary education, employment, and independent living goals. Teachers are often required to document how each lesson taught in their classrooms is related to English and math standards. The content of the lessons taught in this study can be tied directly to national personal finance content standards. Specifically, content taught is related to the following personal finance standards (CEEC, 2009; Jump\$tart Coalition for Personal Finance Literacy, 2007):

- Financial Responsibility and Decision Making: Apply reliable information and systematic decision making to personal financial decisions.
 - Standard 1: Take responsibility for personal financial decisions.
 - Standard 4: Make financial decisions by systematically considering alternatives and consequences.
- Planning and Money Management: Organize personal finances and use a budget to manage cash flow.
 - Standard 2: Develop a system for keeping and using financial records.
 - Standard 3: Describe how to use different payment methods.
 - Standard 4: Apply consumer skills to purchase decisions.

The instructional scripts used in this study taught students to discriminate when they could make a certain purchase and when they could not make a purchase based on the amount of money that they had documented in their check registers. Students learned that when using their debit card, they could only make purchases that cost less than the amount in their checking accounts; otherwise, the card would be denied. When making purchases in the community students began considering the alternatives and consequences of spending certain amounts of money. For example, one student chose to spend less than his allotted \$5.00 so that he would have more money left in his account. Another student spent more than his allotted \$5.00 on his first purchase and faced the consequence of spending less money on his next purchase.

This study also assisted students in developing a system for keeping financial records and taught students how to use those financial records for decision-making. Students were taught to use the check register given to them by their banking institution to keep track of all their purchases with their debit cards and money that was deposited into their accounts. They were taught to refer to this check register to know how much money they had at their disposal. All skills that are prerequisite skills to monitoring a banking account and reconciling a checking/debit account statement.

Another implication for practice is that this study provides practitioners with an inexpensive teaching strategy for using simulated instruction to provide students with skills necessary to make a purchase using a debit card and track their expenses and deposits. The scripted lessons were easy to follow and provided a systematic way of providing instruction and a consistent method of delivering prompting and feedback. The lessons took no more than 30 minutes and were taught by a paraprofessional as opposed to a classroom teacher. Suppose the paraprofessional made minimum wage (e.g.,

\$7.25/hr) plus fringe benefits. For the purpose of this study, the paraprofessional was trained on use of scripted lessons during four, 30-minute sessions, a one time expenditure of \$20.30. This expenditure could be reduced depending on skill level of paraprofessional. If students only required two instructional sessions as the students in this study, the total cost of instructional time it would take for a student's performance to reach criterion performance (i.e., 20 out of 20 steps on the task analysis) would be approximately \$10.15. The researcher-made debit machine was also a cost effective means to provide instruction. The costs involved in creating the box were minimal. Materials to create the box cost less than \$5.00 and it took approximately 30 minutes to construct. If the paraprofessional built the researcher-made debit card machine the cost of construction would total approximately \$8.63. An expenditure that would only be required once since the materials can be used time and time again. All together this intervention costs approximately \$15.15 plus the one time cost of constructing the debit card machine (i.e., \$8.63) and cost of training paraprofessional on instructional materials (i.e., \$20.30). Because of the limited amount of time involved in instruction and the low cost of materials, these lessons could be easily incorporated into any math course.

The final implication for practice is the ease of use of the instructional materials. Each lesson was scripted for the paraprofessional. The instructional script provided the paraprofessional a systematic way of providing the instruction as well as a consistent method of delivering prompting and feedback. The scripts were designed to also act as a treatment fidelity checklist, so that the paraprofessional could keep track of where she was in the instructional script, as well as document that she was following the procedures exactly as prescribed. The script also allowed the paraprofessional to document student response for progress monitoring. According to the paraprofessional and other teacher

reviewers, this type of progress monitoring tool was manageable. Teachers could foresee using this type of procedure in the classroom with a variety of students. The remaining instructional materials were developed using general case analysis to ensure that skill learned in the simulated setting would in fact generalize to other untrained settings and debit card machines (Horner et al., 1982; Nietupski, Hamre-Nietupski, Clancy, & Veerhusen 1986).

Summary

Personal finance skills are vital to managing a household, making purchases, paying bills, engaging in leisure activities, among other daily and adult living activities that require money to participate. Previous research has focused on various components of personal finance such as banking (McDonnell & Ferguson, 1989) using a checking account (Davies, Stock, & Wehmeyer, 2003; LaCampagne, & Cipani, 1987; Zencius, Davis, & Cuvo, 1990), purchasing (Xin, Grasso, Dipipi-Hoy, & Jitendra, 2005) and expense tracking (Rowe et al., 2011).

The purpose of this study was to examine the effects of classroom simulation using static picture prompts to teach students to make a purchase using a debit card and track expenses by subtracting purchase amounts and adding deposits into a check register. Findings indicated that simulated instruction was an effective instructional method for teaching students how to use a debit card to make a purchase and track their expenses and deposits in a check register. Findings also indicated that students were able to generalize the skills of purchasing with a debit card and tracking expenses and deposits in community settings up to five weeks post-intervention. Major contributions of this study to the literature include: additions of students with higher incidence disabilities on-track to receive a standard diploma, demonstration of simplified instructional methods

that are not only cost effective but can be implemented by paraprofessionals, and collecting data pertinent to the social validity of the intervention. Lastly, replicating this intervention, adhering to the quality indicators identified by Horner et al., (2005), could positively contribute to the evidence-base for using simulated instruction to teach debit card usage and expense and deposit tracking.

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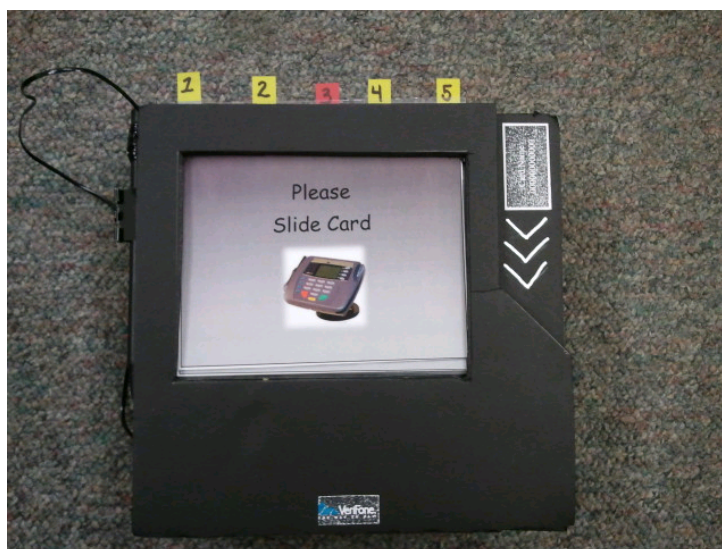
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APPENDIX A: SURVEY OF COMMUNITY

Please check the five places you go most often to make a purchase.

- Bi-mart
- Books on Main
- Dairy Queen
- Goodwill
- Les Schwab Tire Center
- McCoy's Gifts and Pharmacy
- Radio Shack
- Safeway
- This and That Corner
- Walgreens
- Save-A-Lot
- Post Office
- Sears
- Subway
- Wal-Mart

APPENDIX B: SIMULATED DEBIT CARD MACHINE



APPENDIX B: GENERAL CASE ANALYSIS OF DEBIT CARD MACHINES

Activity: Using a debit card to make a purchase

Instructional Universe: Stores typically visited by students

in community that accept
debit cards as a form of payment

Generic Response	Bi-mart	Wal-mart	Safeway	Dollar Tree	Walgreens	Post Office	Goodwill
1. Answer cashiers question of debit or credit?	Cashier didn't say anything. The machine said please slide card. Then a screen came up to choose what type of payment (e.g., debit, credit, EBT)	Cashier didn't say anything. The machine said please slide card. Then a screen came up to choose what type of payment (e.g., debit, credit, EBT)	Cashier didn't say anything. The machine said please choose method of purchase (e.g., debit, credit, EBT, gift)? Once debit was pressed then prompt to slide card was given	Cashier asked debit or credit. Screen just said Dollar Tree	Cashier asked if I would be paying with a debit card	Cashier just waited for you to slide card. Then a screen came up for me to choose what type of payment (e.g., debit, credit)	Cashier didn't say anything. The machine said please slide card. Then a screen came up to choose what type of payment (e.g., debit, credit, EBT)

2. Swipe card	Machine had screen that said please swipe card. Card had to be swiped across the top of the machine. Card held vertically. Magnetic strip facing toward machine	Machine had screen that listed items purchased said please slide card. Card had to be swiped down the side. Card on its side. Magnetic strip facing toward machine and down, numbers facing out	Machine had screen that said please swipe card. Card had to be swiped down the right side. Card lying flat. Magnetic strip facing down, numbers facing right	Machine had screen that listed items purchased said please slide card. Card had to be swiped down the side. Card on its side. Magnetic strip facing toward machine and down, numbers facing out	Machine had screen that said please swipe card. Card had to be swiped down the right side. Card lying flat. Magnetic strip facing down, numbers facing right	Machine had screen that said please swipe card. Card had to be swiped across the top. Card on its side. Magnetic strip facing down and toward me, numbers facing toward cashier	Machine had screen that listed items purchased said please slide card. Card had to be swiped down the side. Card on its side. Magnetic strip facing toward machine and down, numbers facing out
3. Enter PIN Number	Enter numbers on a key pad and press enter	PIN screen could either use fingers or attached pen to type the numbers of my PIN and press enter	Had to use touch screen to enter PIN and press enter button	Enter numbers on a key pad and press enter	Enter numbers on a key pad and press enter	PIN screen could either use fingers or attached pen to type the numbers of my PIN and press enter	Enter numbers on a key pad and press enter

4. Check Amount of Purchase to see if it is correct	Screen showed amount ok? And had a green yes (enter) button or a red (cancel) button to choose	Screen showed amount ok? And had a yes box or a no box to choose	Screen showed amount ok? And had a yes box or a no box to choose	Screen showed items purchased and Amount OK? Had to choose yes or no by black buttons located underneath the words yes and no on the screen	Screen showed amount ok? And had a yes box or a no box to choose	Screen showed Amount OK? And had a yes box or a no box to choose	Screen showed amount ok? And had a yes box or a no box to choose
5. Choose whether you want cash back or not	Screen showed cash back? And had a green yes (enter) button or a red (cancel) button to choose	Cash back amount could select from 4 boxes (\$20, \$50, none, other)	Cash back amount could select from 4 boxes (\$20, \$50, none, other)	Screen showed cash back? Had to choose yes or no by black buttons located underneath the words yes and no on the screen	Cash back amount could select from 4 boxes (\$20, \$50, none, other)	Cash back amount could select from 4 boxes (\$20, \$50, none, other)	Cash back amount could select from 4 boxes (\$20, \$50, none, other)

APPENDIX C: GENERAL CASE ANALYSIS OF RECEIPTS

Activity: Reading Receipts

Instructional Universe: Stores typically visited by students in community that accept debit cards as a form of payment

Generic Response	Bi-mart	Wal-mart	Safeway	Dollar Tree	Walgreens	Post Office	Goodwill
1. Name of Store	Top of receipt (all caps) Back of receipt all caps and bold	Middle of receipt after survey request	Top of receipt Bold letters	Top of receipt in all caps	Top of receipt in bold	3 rd line from top in all caps followed by store number	Top of receipt Small Print
2. Date (where and how it is written)	Bottom of receipt. Written December 10, 2010, followed by time	Found twice, in middle of the receipt, written 06/19/10 followed by military time and last line of receipt	In middle of receipt after total, written 6/18/10 followed by a series of other numbers	Bottom of receipt written 11/26/10	Found in middle of the receipt, written 06/19/10	Top of receipt says Date followed by 06/07/10	Two lines above total Written Nov 20, 10 followed by time
3. Total Purchase (where found, words used to describe)	Says TOTAL in all caps, at end of items purchased	Says TOTAL in all caps, at end of items purchased	Says DEBIT Card in all caps. Listed at end of items purchased	Says Total Listed at end of items purchased	Says TOTAL in all caps, at end of items purchased	Says TOTAL in all caps under items purchased	Says TOTAL in all caps. Listed at end of items purchased

4. Irrelevant information found on receipt	Store phone, thank you note; store address	Survey request at top of receipt; bar code; manager name; store phone number; debit card information	Store number and phone number; store manager name; Club Card savings; Cashier name, Flex spending advertisement, advertisements on back; Store address	Store address and phone number under store name; store logo; instant win game information on back of receipt	Manager name; store phone number; debit card information	Store address; Note stating all sales final	Address, phone number under store name, debit card information
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APPENDIX E: PROBE SCRIPT

Step 1:

Teacher. Today you are going to use your debit card to make a purchase and track your expenses. I want you to show me the steps you would take. I am going to read a scenario and I want you to first determine if you have enough money in your account to make the purchase and then complete the transaction and balance your banking account. Your cat ran out of cat treats. You went to the Family Dollar to purchase some. You walked to the checkout line, placed your item on the counter. The cashier rang up your items and said your total is \$1.08. Do you have enough money in your banking account to make a purchase of \$1.08? **[Wait 5s for a response]**

Student. Says “yes”

Prompt/Feedback: If correct, go to next step. If no response provide verbal prompt, “Are you finished?”

Step 2:

Teacher. Will that be debit or credit? **[Wait 5s for a response]**

Student. Says “Debit”

Prompt/Feedback: If correct, go to next step. If no response provide verbal prompt, “Are you finished?”

Step 3:

Teacher. **[Wait 5s for a response]**

Student. Swipes card through machine

Prompt/Feedback: If correct, go to next step. If no response provide verbal prompt, “Are you finished?”

Step 4:

Teacher. **[Wait 5s for a response]**

Student. Uses pen or finger to correctly press each digit of his PIN

Prompt/Feedback: If correct, go to next step. If no response provide verbal prompt, “Are you finished?”

Step 5:

- Teacher.** [Wait 5s for a response]
- Student.** Puts finger on the yes box
- Prompt/Feedback:** If correct, go to next step. If no response provide verbal prompt, “Are you finished?”

Step 6:

- Teacher.** [Wait 5s for a response]
- Student.** Puts finger on no box
- Prompt/Feedback:** If correct, go to next step. If no response provide verbal prompt, “Are you finished?”

Step 7:

- Teacher.** [Wait 5s for a response]
- Student.** Takes receipt
- Prompt/Feedback:** If correct, go to next step. If no response provide verbal prompt, “Are you finished?”

Step 8:

- Teacher.** [Wait 5s for a response]
- Student.** Puts receipt in pocket or wallet
- Prompt/Feedback:** If correct, go to next step. If no response provide verbal prompt, “Are you finished?”

Step 9:

- Teacher.** [Wait 5s for a response]
- Student.** Walks to banking center
- Prompt/Feedback:** If correct, go to next step. If no response provide verbal prompt, “Are you finished?”

Step 10:

- Teacher.** [Wait 5s for a response]
- Student.** Takes receipt out of pocket or wallet
- Prompt/Feedback:** If correct, go to next step. If no response provide verbal prompt, “Are you finished?”

Step 11:

- Teacher.** [Wait 5s for a response]
- Student.** Writes card
- Prompt/Feedback:** If correct, go to next step. If no response provide verbal prompt, “Are you finished?”

Step 12:

- Teacher.** [Wait 5s for a response]
- Student.** Writes correct date from receipt in appropriate box
- Prompt/Feedback:** If correct, go to next step. If no response provide verbal prompt, “Are you finished?”

Step 13:

- Teacher.** [Wait 5s for a response]
- Student.** Writes name of store from receipt in appropriate box
- Prompt/Feedback:** If correct, go to next step. If no response provide verbal prompt, “Are you finished?”

Step 14:

- Teacher.** [Wait 5s for a response]
- Student.** Writes total from receipt in appropriate box
- Prompt/Feedback:** If correct, go to next step. If no response provide verbal prompt, “Are you finished?”

Step 15:

Teacher. [Wait 5s for a response]

Student. Subtracts amounts of debit from account balance and writes amount in balance column

Prompt/Feedback: If correct, go to next step. If no response provide verbal prompt, “Are you finished?”

Step 16:

Teacher. [Wait 5s for a response]

Student. Finds deposit amount in check register

Prompt/Feedback: If correct, go to next step. If no response provide verbal prompt, “Are you finished?”

Step 17:

Teacher. [Wait 5s for a response]

Student. Writes date in correct box

Prompt/Feedback: If correct, go to next step. If no response provide verbal prompt, “Are you finished?”

Step 18:

Teacher. [Wait 5s for a response]

Student. Writes deposit under transaction description

Prompt/Feedback: If correct, go to next step. If no response provide verbal prompt, “Are you finished?”

Step 19:

Teacher. [Wait 5s for a response]

Student. Writes amount of deposit in correct box

Prompt/Feedback: If correct, go to next step. If no response provide verbal prompt, “Are you finished?”

Step 20:

- Teacher.** [Wait 5s for a response]
- Student.** Adds amounts in the deposit/credit column to the amount in balance column. Writes final amount in correct box
- Prompt/Feedback:** If correct, probe is complete. If no response provide verbal prompt, “Are you finished?”

APPENDIX F: INSTRUCTIONAL SCRIPT

Step 1:

Teacher. Let's get started with our lesson.

I would like for you to watch me go through the steps of using a debit card and repeat what I do. I will read a case scenario and then we will go through the steps together. Before you can buy something you must determine if you have enough money in your account to make the purchase. A way to keep track of your expenses is to use a check and debit card register like this one [**show check register**]. In this register you can write down every purchase you make in addition to money you deposit into your account. It is an easy way to keep track of your money. Let's look at the check and debit card register. The check register is divided into seven columns and many rows. If you notice, the last column of the check register is labeled balance [**point to last column**]. This is where you will find how much money you have in your account. If you only have \$25.00 in your account, then you will know you cannot make a purchase that is more than \$25.00. You can only make a purchase that is less than \$25.00. Let's determine if we have enough money in our accounts to make a purchase. I will go first. [**Look at check register and point to balance**] I have \$25.00 in my account. I want to buy some cat treats for my kittens. The treats are only \$1.08. Do I have enough money? Well, \$1.08 is less than \$25.00, so yes I have enough money. Let's do another example. I want to buy a new dress that cost \$29.96. Do I have enough money? Well, \$29.96 is more than \$25.00. I cannot buy the dress because I will not have enough money. Now you try. How much money is in your account?

Student. Says "\$200.00"

Prompt/Feedback: For correct response: Praise with specific feedback, "Great Job." If no response provide verbal prompt "How much money do you have, look at your register?" If incorrect response is given, repeat the step.

Teacher. Do you have enough money to make a purchase of \$215.00?

Student. Says “No”

Prompt/Feedback: For correct response: Praise with specific feedback, “Excellent.” If no response provide verbal prompt “Do you have enough money, look at your register?” If incorrect response is given, repeat the step.

Teacher. Do you have enough money to make a purchase of \$15.00?

Student. Says “Yes”

Prompt/Feedback: For correct response: Praise with specific feedback, “Fantastic!” If no response provide verbal prompt “Do you have enough money, look at your register?” If incorrect response is given, repeat the step.

Teacher. Great, now that we know how to determine if we have enough money to make a purchase. Let’s learn how to make a purchase with our debit cards.

Step 2:

Teacher. When you go through the checkout line to make your purchase at a store, the cashier will tell you the total you owe and ask you if you are using a debit or credit card or the total will be displayed on the screen. You must tell her debit or choose debit on the screen. What should you tell her?

Student. Says “Debit”

Prompt/Feedback: For correct response: Praise with specific feedback, “Good, you say debit.” If no response provide verbal prompt “What should you say?” If incorrect response is given, repeat the step.

Teacher. Are you ready to make a purchase?

Student. Says “Yes”

Prompt/Feedback: For correct response: Praise with specific feedback. “Good job!” If no response provide verbal prompt “Ready?” If incorrect response is given, repeat the step.

Teacher. Yesterday, you went to Wal-Mart to purchase some cereal and pizza. You walked to the register and placed your items on the counter. The cashier rang up your items and said that will be \$22.85. Will that be debit or credit? What should you tell her?

Student. Says “Debit”

- Prompt/Feedback:** For correct response: Praise with specific feedback, “great, you said Debit!” If no response provide verbal prompt “What should you say?” If incorrect response is given, repeat the step.

Step 3:

- Teacher.** Watch and listen. Make sure the card is facing the appropriate way. Use the picture on the machine as a guide [**point to picture on machine**]. The black strip faces down. The card number faces up. Then you slide the card through the slot [**model card slide**]. Now your turn. How do you slide your card?
- Student.** Swipes the card through the machine.
- Prompt/Feedback:** For correct response: Praise with specific feedback, “Excellent!” If no response provide verbal prompt “What is the next step?” If incorrect response is given, repeat the step.

Step 4:

- Teacher.** The next step after you swipe your card is to enter your pin number. To do this you can use the pen attached to the side of the machine or your finger. What do you enter?
- Student.** Says, “I enter my pin number”.
- Prompt/Feedback:** For correct response: Praise with specific feedback, “Good, you enter your PIN.” If no response provide verbal prompt “What is the next step?” If incorrect response is given, repeat the step.
- Teacher.** Take the pen or your finger and enter your PIN.
- Student.** Picks up pen or uses finger and presses each digit of their PIN and presses enter.
- Prompt/Feedback:** For correct response: Praise with specific feedback, “Good Job.” If no response provide verbal prompt “What is the next step?” If incorrect response is given, repeat the step.

Step 5:

- Teacher.** After you enter your pin number you will see a screen that will ask you if the amount of the purchase is correct. You will need to make sure you read the amount to make sure it matches what you purchased. If it is correct, you will press the yes box. If it is incorrect you will press the no box. Watch me [**model step**]. Now you try. What are you going to do?

Student. Says “check amount to see if it is correct, it is.” Puts pen or finger on the yes box.

Prompt/Feedback: For correct response: Praise with specific feedback, “Good.” If no response provide verbal prompt “What is the next step?” If incorrect response is given, repeat the step.

Step 6:

Teacher. After you have checked the amount to see if it is correct and chosen yes, you will then see a screen that asks if you want cash back. For this lesson, you will always choose the no box [**model step**]. What are you going to do?

Student. Says “Choose the no box, for no cash back.” Puts pen or finger on the no box.

Prompt/Feedback: For correct response: Praise with specific feedback, “Good job.” If no response provide verbal prompt “What is the next step?” If incorrect response is given, repeat the step.

Step 7:

Teacher. The last thing you should see is a screen that says APPROVED. This means your transaction has been approved and you are done with this sequence. Your cashier will hand you a receipt after this screen appears. What will the cashier hand you?

Student. Says, “A receipt.”

Prompt/Feedback: For correct response: Praise with specific feedback, “Excellent, the cashier will hand you a receipt.” If no response provide verbal prompt “What is the next step?” If incorrect response is given, repeat the step.

Teacher. [**hand student receipt**]

Student. Takes receipt

Prompt/Feedback: For correct response: Praise with specific feedback, “Great.” If no response provide verbal prompt “What will you need to keep track of your expenses?” If incorrect response is given, repeat the step.

Step 8:

Teacher. Once you get your receipt you should put it away in your wallet or purse so that you will be able to find it later. It is important that you keep the receipt

because you will need it to enter into your check register later. Where will you put your receipt?

Student. Says, “In my pocket or wallet.”

Prompt/Feedback: For correct response: Praise with specific feedback, “Great.” If no response provide verbal prompt “Where will you put your receipt?” If incorrect response is given, repeat the step.

Teacher. Go ahead and place it where you will be able to find it later.

Student. Puts receipt in pocket or wallet.

Prompt/Feedback: For correct response: Praise with specific feedback, “Excellent.” If no response provide verbal prompt “What should you do with your receipt?” If incorrect response is given, repeat the step.

Step 9:

Teacher. After you have made your purchase you will return home or the classroom to balance your account. At home you can balance your account wherever you are comfortable (the kitchen table, a desk, your room). At school you will go to the banking center to balance your account. It is located right over there. Where will you go to enter your transactions into your check register?

Student. Says, “Banking Center”

Prompt/Feedback: For correct response: Praise with specific feedback, “Good.” If no response provide verbal prompt “Where will you go to track of your expenses?” If incorrect response is given, repeat the step.

Teacher. Go ahead and walk over there.

Student. Walks to Banking Center.

Prompt/Feedback: For correct response: Praise with specific feedback, “Great.” If no response provide verbal prompt “Where should you go?” If incorrect response is given, repeat the step.

Step 10:

Teacher. We will first enter our debits into our check registers and then enter our deposits. Let’s begin with our debits. Once you are at the banking center you need to take your receipt out of your wallet or pocketbook. Go ahead and take your receipt out of your pocket or wallet.

Student. Takes receipt out of pocket or wallet.

Prompt/Feedback: For correct response: Praise with specific feedback, “Good.” If no response provide verbal prompt “What should you do?” If incorrect response is given, repeat the step.

Step 11:

Teacher. Now that we are in the banking center and we have our receipt, we will now enter our transaction into our check registers [**Point to register as you instruct student**]. The check register is divided into seven columns and many rows. The rows are white and shaded. We will only write in the white rows. So each time you enter a transaction you will write on every other row (only the white ones). We will start in the first column on the first row [**Point to the first column and the first row**]. What row will we start with? Point to the row.

Student. Points to the first column and the first row.

Prompt/Feedback: For correct response: Praise with specific feedback, “Good Job!” If no response provide verbal prompt “Where should we start recording our transactions?” If incorrect response is given, repeat the step.

Step 12:

Teacher. In the first column, labeled number or code, we will write CARD. This means that we used our debit card to make this transaction. Writing CARD also tells us that this is a debit meaning we will need to subtract the amount from our account total [**model in register**]. Now your turn. What will you write in this box? Write the word and say it out loud.

Student. Says, “Card.” Writes card under the column labeled number or code.

Prompt/Feedback: For correct response: Praise with specific feedback, “Fantastic!” If no response provide verbal prompt “What should we write?” If incorrect response is given, repeat the step.

Teacher. What does this word mean?

Student. Says, “Subtract amount from total balance.”

Prompt/Feedback: For correct response: Praise with specific feedback, “Good job, you will subtract.” If no response provide verbal prompt “What should you do?” If incorrect response is given, repeat the step.

Step 13:

- Teacher.** The next column is where we write the date of our transaction. You have to look at your receipt and write under the column labeled date, the date that is printed on your receipt. Let's find the date on the receipt. Sometimes the date is printed on the top of the receipt. Sometimes it is printed on the bottom of the receipt. It is written in numerals and includes the two digit month, two digit day, and either a two digit or four digit year. Sometimes the date is written with the month first like this [**Show card with date 06/10/10.**]. Sometimes the date is written with the year first [**Show card with date 2010-06-18**]. Notice also that sometimes the date is written with dashes and sometimes it is written with forward slashes. Let's look at the different ways you may see the date written [**Show card with multiple dates**]. Let's look at your receipt. Can you find the date? Point to it and say the date out loud.
- Student.** Points to date on receipt. Says the date on receipt.
- Prompt/Feedback:** For correct response: Praise with specific feedback, "Awesome, you found the date!" If no response provide verbal prompt "What should you look for?" If incorrect response is given, repeat the step.
- Teacher.** Once you find the date, write it under the column labeled date on the appropriate line [**model in register**]. Now you write the date.
- Student.** Writes date under the date column on appropriate line.
- Prompt/Feedback:** For correct response: Praise with specific feedback, "Very good!" If no response provide verbal prompt "What should you write?" If incorrect response is given, repeat the step.

Step 14:

- Teacher.** The third column asks for a description of the transaction. In this column you will write the name of the store where you made your purchase. You will look at the receipt to find the name of the store. Once you find the name of the store you will copy that name into your check register. The name of the store is on the top of the receipt. Sometimes it is in large bold print and sometimes it is not. Let's look at a few examples [**show receipt examples card**]. Now look at your receipt. What is the name of the store? Point to it on the receipt and say it out loud.
- Student.** Looks at receipt, points to name of store and says correct name of store.

- Prompt/Feedback:** For correct response: Praise with specific feedback, “Great, you found the name of the store!” If no response provide verbal prompt “What should you look for?” If incorrect response is given, repeat the step.
- Teacher.** Now write the name of the store in your check register like this [**model in register**].
- Student.** Writes the correct name of store under the transaction description column on the appropriate line.
- Prompt/Feedback:** For correct response: Praise with specific feedback, “Very good!” If no response provide verbal prompt “What should you write?” If incorrect response is given, repeat the step.

Step 15:

- Teacher.** The fourth column of the check register is labeled payment, fee, withdrawal. It has a minus sign beside it. This tells you, you will subtract this number from the balance [**Point to column label**]. In this column you will write the total that is listed on your receipt. On your receipt you will find the place where it says total. The total is typically found at the end of the list of items you have purchased. Sometimes it may say balance due or just balance. Sometimes it may say sale total [**point to receipt**]. Now look at your receipt. What is the total? Point to the total on your receipt and say it out loud
- Student.** Looks at receipt, points to total, and says correct total of purchase.
- Prompt/Feedback:** For correct response: Praise with specific feedback, “Excellent, you found the total!” If no response provide verbal prompt “What should you be looking for on the receipt?” If incorrect response is given, repeat the step.
- Teacher.** Now we will write this total in our registers [**model in register**]. Now you write the total in your register.
- Student.** Writes correct total of purchase in register under the column labeled payment, fee, withdrawal.
- Prompt/Feedback:** For correct response: Praise with specific feedback, “Good Job!” If no response provide verbal prompt “What should you write under the column labeled payment, fee, withdrawal?” If incorrect response is given, repeat the step.

Step 16:

- Teacher.** The last thing we must do in order to track our expenses is to tally the results. This means we have to subtract the amount we put in the column labeled

payment, fee, withdrawal (-) on our register from the account balance listed above our current transaction [**model in register**]. Show me the amount you just entered?

- Student.** Shows amount written in column labeled payment, fee, withdrawal (-)
- Prompt/Feedback:** For correct response: Praise with specific feedback, “Great job!” If no response provide verbal prompt “What number will you subtract?” If incorrect response is given, repeat the step.
- Teacher.** Show me where the account balance is listed?
- Student.** Shows amount written in column labeled Balance.
- Prompt/Feedback:** For correct response: Praise with specific feedback, “Super!” If no response provide verbal prompt “What number will you subtract from?” If incorrect response is given, repeat the step.
- Teacher.** What are you going to do with these amounts?
- Student.** Says, “I am going to subtract the amount of the purchase from the amount of the balance”
- Prompt/Feedback:** For correct response: Praise with specific feedback, “Good, you will subtract.” If no response provide verbal prompt “What are you going to do?” If incorrect response is given, repeat the step.
- Teacher.** Subtract the amounts.
- Student.** Student subtracts amount in payment, fee, withdrawal column from amount in Balance column on the row above and writes final amount in the correct box.
- Prompt/Feedback:** For correct response: Praise with specific feedback, “Super, you just tracked your expense” [**Give high five**]. If no response provide verbal prompt “What is the last step you need to know in order to determine what the new balance of your account will be.” If incorrect response is given, repeat the step.

Step 17:

- Teacher.** Spending money is great but you will soon run out of money if you do not make deposits into your account. A deposit is when you put money into your banking account. You can go to the bank and make a deposit, deposit money through an ATM, or have your job set up direct deposit. When you opened your banking account you made a deposit of \$25. Direct deposit is when your place of employment sends money directly to your banking account on a designated day.

For these lessons we are going to pretend you have direct deposit to your banking account. What kind of deposit are you going to do for these lessons?

Student. Says, “Direct deposit.”

Prompt/Feedback: For correct response: Praise with specific feedback, “Fantastic, you will have direct deposit.” If no response provide verbal prompt “What kind of deposits will you have?” If incorrect response is given, repeat the step.

Teacher. Today your deposit is in the amount of \$10.00. This is the amount you will use in your check register.

Step 18:

Teacher. Deposits are the opposite of expenses. Rather than subtracting them from your account balance you will add them. When you add deposits into your check register you will write the date, the transaction description, and the amount of the deposit. Remember, instead of subtracting from the balance you will add the amount to the balance. The first thing you do is write the date of the deposit. This is the date that money is automatically deposited into your account. For this lesson you will use today’s date. What is today’s date?

Student. Says correct date.

Prompt/Feedback: For correct response: Praise with specific feedback, “Good job!” If no response provide verbal prompt “What is the date?” If incorrect response is given, repeat the step.

Teacher. You will write this date on the next white line in your register under the date column [**model in register**]. Point to where you will write the date.

Student. Points to the next empty white box under date.

Prompt/Feedback: For correct response: Praise with specific feedback, “Good.” If no response provide verbal prompt “Where will you write the date?” If incorrect response is given, repeat the step.

Teacher. Now write the date in the box.

Student. Writes today’s date in the correct box.

Prompt/Feedback: For correct response: Praise with specific feedback, “Excellent.” If no response provide verbal prompt “What should you write?” If incorrect response is given, repeat the step.

Step 19:

- Teacher.** Under transaction description you will write deposit [**model in register**]. What will you write as the transaction description?
- Student.** Says, “deposit”
- Prompt/Feedback:** For correct response: Praise with specific feedback, “Good Job.” You are making a deposit. If no response provide verbal prompt “What will you write as the transaction description?” If incorrect response is given, repeat the step.
- Teacher.** Point to the box where you will write the transaction description and write deposit
- Student.** Points to next empty white box under transaction description and writes deposit.
- Prompt/Feedback:** For correct response: Praise with specific feedback, “Great.” If no response provide verbal prompt “What will you write as the transaction description?” If incorrect response is given, repeat the step.

Step 20:

- Teacher.** Next you are going to write the amount of the deposit. Remember, the amount you will be depositing today is \$10.00. The amount of the deposit goes in the column labeled deposit, credit. You will see a + sign above the column. The plus sign tells you that you are going to add this number to the balance [**model in register**]. What are you going to write in this box?
- Student.** Says, “amount of deposit”
- Prompt/Feedback:** For correct response: Praise with specific feedback, “Excellent.” If no response provide verbal prompt “What do you write?” If incorrect response is given, repeat the step.
- Teacher.** What is the amount of the deposit?
- Student.** Says “\$10.00”
- Prompt/Feedback:** For correct response: Praise with specific feedback, “Good, you will deposit \$10.00.” If no response provide verbal prompt “How much is the deposit?” If incorrect response is given, repeat the step.

Step 21:

- Teacher.** We are on the last step. The last thing we must do in order to calculate the balance in our checkbook is to tally the results. This means we have to add the amount we put in column labeled deposit, credit (+) on our register to the account balance listed above our current transaction [**model in register**]. What are you going to do with the numbers?
- Student.** Says “add”
- Prompt/Feedback:** For correct response: Praise with specific feedback, “Excellent, You add!” If no response provide verbal prompt “What are you going to do with the numbers?” If incorrect response is given, repeat the step.
- Teacher.** Now add the numbers and write the amount in the last column labeled balance.
- Student.** Writes correct total.
- Prompt/Feedback:** For correct response: Praise with specific feedback, “Great Job, You just balanced your checkbook correctly!” [**Give a high five**]. If no response provide verbal prompt “What is the last step you need to know in order to determine what the new balance of your account will be.” If incorrect response is given, repeat the step.

Step 22:

- Teacher.** This balance is now what you have available to spend. How much money do you have to spend?
- Student.** Says correct balance.
- Prompt/Feedback:** For correct response: Praise with specific feedback, “Good.” If no response provide verbal prompt “What is your new balance?” If incorrect response is given, repeat the step.
- Teacher.** Can you spend more than that amount?
- Student.** Says, “no”
- Prompt/Feedback:** For correct response: Praise with specific feedback, “Great.” If no response provide verbal prompt “Can you spend more?” If incorrect response is given, repeat the step.
- Teacher.** Can you spend less than this amount?

Student. Says, “yes”

Prompt/Feedback: For correct response: Praise with specific feedback, “Excellent you can spend less.” If no response provide verbal prompt “Can you spend less?”
If incorrect response is given, repeat the step.

Teacher. We are finished for the day. You did an excellent job.

APPENDIX H: INTERVENTION SURVEY FOR STUDENTS

1. This would be an acceptable lesson for the high school?	No	Not Sure	Yes
2. Most high school students would participate in this type of lesson?	No	Not Sure	Yes
3. This lesson should prove to be effective in teaching students' how to use a debit card and track expenses?	No	Not Sure	Yes
4. I would suggest other students participate in this intervention.	No	Not Sure	Yes
5. I would be willing to participate in other lessons similar to this one?	No	Not Sure	Yes
6. This lesson would be appropriate for a variety of students?	No	Not Sure	Yes
7. I like the procedures used in this lesson.	No	Not Sure	Yes
8. This lesson is a good way to teach money management skills.	No	Not Sure	Yes
9. The time and effort involved in each lesson are acceptable.	No	Not Sure	Yes
10. Overall, the lesson would be beneficial for students with disabilities in high school.	No	Not Sure	Yes
11. How would you rate your ability to use a debit card?	No ability	Some ability	Complete ability
12. How would you rate your ability to track expenses?	No ability	Some ability	Complete ability
13. How would you rate the usefulness of this skill?	Not useful	Somewhat useful	Very useful
14. How often do you think you will use this skill?	Never	Sometimes	Always

APPENDIX I: PARENT SURVEY QUESTIONS

Financial skills require an understanding of money, cash flow, and basic financial concepts (e.g., saving, spending, budgeting). It is not only a matter of knowing what one has and what one's options are, it is a matter of precise planning to meet life's goals.

1. How important is learning personal finance skills for your child to live independently?

0	1	2
Not important	Somewhat important	Extremely important

2. Do you think it is important your child know how to use a debit card to make purchases and be able to track their expenses?

0	1	2
Not important	Somewhat important	Extremely important

3. Has your child's ability to use a debit card increased as a result of participating in this study?

1	2	3	4
Not at all	Unsure	Somewhat	Definitely

4. Has your child's ability to track expenses in a check register increased as a result of participating in this study?

1	2	3	4
Not at all	Unsure	Somewhat	Definitely

5. Would you like your child to participate in more lessons about purchasing and money management?

YES NO

APPENDIX J: INTERVENTION ACCEPTABILITY SURVEY FOR TEACHERS
(adapted from: Lane, Kalberg, Bruhn, Driscoll, Wehby, & Elliot, 2009)

1. This would be an acceptable intervention for the high school?	Strongly Disagree	Somewhat Disagree	Unsure	Somewhat Agree	Strongly Agree
2. Most secondary teachers would consider this intervention appropriate?	Strongly Disagree	Somewhat Disagree	Unsure	Somewhat Agree	Strongly Agree
3. This intervention should prove to be effective in teaching students acquisition, generalization, and maintenance of skills to use a debit card and track expenses?	Strongly Disagree	Somewhat Disagree	Unsure	Somewhat Agree	Strongly Agree
4. I would suggest the use of this intervention to other teachers.	Strongly Disagree	Somewhat Disagree	Unsure	Somewhat Agree	Strongly Agree
5. I would be willing to use this intervention in the school setting?	Strongly Disagree	Somewhat Disagree	Unsure	Somewhat Agree	Strongly Agree
6. This intervention would be appropriate for a variety of students?	Strongly Disagree	Somewhat Disagree	Unsure	Somewhat Agree	Strongly Agree
7. I like the procedures used in this intervention.	Strongly Disagree	Somewhat Disagree	Unsure	Somewhat Agree	Strongly Agree
8. This intervention is a good way to teach personal finance skills.	Strongly Disagree	Somewhat Disagree	Unsure	Somewhat Agree	Strongly Agree
9. The progress monitoring procedures are manageable.	Strongly Disagree	Somewhat Disagree	Unsure	Somewhat Agree	Strongly Agree
10. Overall, the intervention would be beneficial for students with disabilities in high school.	Strongly Disagree	Somewhat Disagree	Unsure	Somewhat Agree	Strongly Agree