SELF-MONITORING WITH PICTURE PROMPTS AS A COMPONENT OF THE *SELF-DIRECTED IEP*

by

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ABSTRACT

KAREN MARIE DIEGELMANN. Self-monitoring with picture prompts as a component of the *Self-Directed IEP*. (Under the direction of DR. DAVID W. TEST)

Even with the increase in postsecondary education options, employment opportunities, and heightened awareness of possibilities for students with disabilities; post-school outcomes for students with intellectual disabilities continue to fall behind other students with disabilities. One way to improve outcomes for these students is to include them in decisions about their future by teaching students how to participate in their IEP meetings. Self-monitoring provides immediate feedback, motivation, and teaches students to self-regulate what they are learning. In this study, two middle school and two high school students learned the steps of their IEP meeting This study uses a multiple baseline across participants design to examine the effects of a self-monitoring checklist with visual supports as an essential component of the *Self-Directed IEP* for students with intellectual disabilities. Visual inspection of the results reveal an immediate change in level suggesting a functional relation of the modified *Self-Directed IEP* on the number correct steps of the IEP. Three students were able to generalize to post-intervention mock IEPs using the self-monitoring checklist.

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CHAPTER 1: INTRODUCTION

Statement of the Problem

Students with disabilities have not experienced the same positive post-school outcomes as same-aged peers without disabilities. Students with disabilities are much less likely to attend postsecondary education programs, be employed with competitive work, or live in their own apartment or house. One reason may be that students are not always taught about the opportunities for after high school and have been left out of the decision-making process for their future. As postsecondary education programs grow, employment opportunities increase, and awareness of possibilities for students with disabilities heighten; post-school outcomes have begun to increase for students across most disability categories. However, students with intellectual disability continue to fall behind other students with disabilities in the areas of postsecondary education, employment, and independent living (Bouck, 2012; Bouck & Joshi, 2012; Newman, Wagner, Cameto, & Knokey, 2009; Newman et al., 2011).

Giving Students a Voice

One way to improve outcomes for these students is to include them in decisions that determine their future (Warger & Burnette, 2000). Of students with disabilities, who were participants in NLTS-2, only twelve percent actively led their transition planning process (Cameto, Levine, & Wagner, 2004). Using student-focused planning, one piece of the five-part *Taxonomy for Transition Programming* (Kohler & Field, 2003), students

can have a voice in what happens during high school and in planning what comes after high school. According to Kohler and Field (2003), student-focused planning provides an avenue for students to develop self-determination skills and develop self-awareness. Field, Martin, Miller, Ward, and Wehmeyer (1998) defined self-determination as "a combination of skills, knowledge, and beliefs that enable a person to engage in a goal-directed, self-regulated, autonomous behavior. An understanding of one's strengths and limitations together with a belief in oneself as capable and effective are essential" (p. 2). Self-determined behavior is a construct which includes a variety of components including choice making, problem-solving, decision making, goal setting, self-regulation, self-awareness, self-efficacy, and self-advocacy (Algozzine, Browder, Karvonen, Test, & Wood, 2001). Test, Mazzotti, et al. (2009) identified self-advocacy/self-determination skills as one of 16 transition practices to be predictors of successful post-school outcomes. For example, in a study using the *Arc Self-Determination Scale* (Wehmeyer & Kelchner, 1995), students with higher self-determination scores also had higher post-school outcomes one year (Wehmeyer & Schwartz, 1997) and three years after high school (Wehmeyer & Palmer, 2003). Students with disabilities who scored higher on self-determination scales showed a stronger ability to create goals and make decisions (Wehmeyer, Palmer, Soukup, Garner, & Lawrence, 2007), and also scored higher in self-regulation and self-awareness/self-knowledge. However, Landmark and Zhang (2012) examined 212 IEP records across 22 LEAs to determine level of compliance with IDEA (2004) mandates regarding transition components of the IEP, evidence of best practices, possible correlation among disability, ethnicity, IEP compliance and practice, as well as a connection between IEP compliance and performance of transition activities. Results of

IEP inspection indicated little more than 25% of students exhibited self-determination skills or were taught self-determination skills. Similarly, Shogren, Kennedy, Dowsett, and Little (2014), found students with intellectual disability showed significantly lower levels of certain self-determination constructs (i.e., psychological empowerment) compared to students with high-incidence disabilities on the NLTS-2.

Need for Training Students to Participate in their IEP

Students can practice their self-determination skills as they prepare to tell their story in terms of their (a) interests, (b) skills and limits, and (c) options and goals when they participate in their IEP meeting (Martin, Marshall, Maxson, & Jerman, 1996). For this reason, it is important that teachers instruct their students in how to participate in their IEP meetings. First, Van Reusen and Bos (1994) conducted a group study where 11 students and their parents were randomly assigned to the intervention group and were given training in an IEP participation strategy while the control group of 10 students and their parents were given basic information about IEP meetings. Results showed students who were given the training about their IEP talked about their goals and provided other personal details at a higher rate than the students who did not receive the training.

Second, in a study to examine the effects of the *Student-Directed Transition Planning* program (Woods, Sylvester, & Martin, 2010), students who received the *Student-Directed Transition Planning* training had significant increases in both knowledge of transition planning and self-efficacy, out-scoring students in the control group. Finally, Test et al. (2004), in a review of literature examining the effects of interventions to increase IEP participation and found students can learn to participate in

their IEP meetings when provided with published curricula or person-centered planning. All 16 studies reviewed found positive results for student participation in their IEPs.

Other benefits of teaching students to participate in their IEP meetings include increased academic skills (Fowler, Konrad, Walker, Test, & Wood, 2007; Konrad, Fowler, Walker, Test, & Wood, 2007), as well as the non-academic skills (McConnell et al., 2013; Pham, 2013). Many of the non-academic skills which students need to transition to post-school employment and education options are taught within IEP participation curricula.

More intrinsic benefits were noted in a study examining the perceptions of teachers and students following student-led IEP meetings (Mason, McGahee-Kovac, Johnson, & Stillerman, 2002). Special education teachers reported student growth in self-advocacy and social skills, and felt the IEP meeting was a conversation between the student and IEP team. In that study, general educators saw students as knowledgable and prepared in transition processes. Student interviews revealed a sense of self-advocacy, self-confidence, and leadership. Second, positive changes were not limited to students in a study by Martin, Huber Marshall, and Sale (2004). When students participated in their IEP meetings, parents, general education teachers, and administrators had a better understanding of the IEP process better and felt more comfortable about talking openly. A change occurs when students with disabilities start to take charge of their lives; parents, teachers, and others begin to change their attitudes and begin to let go of their control.

Research to Practice Gap

Although research investigating strategies to increase IEP participation have provided the field with positive results, these interventions do not always get translated into classroom activities. Teachers may not be sure how to teach transition skills (Li, Bassett, & Hutchenson, 2009), self-determination (Grigal, Neubert, Moon, & Graham, 2003), and other evidence-based, transition practices (Jones, 2009; Pham, 2013), or how to incorporate these concepts into IEP meetings (Konrad, 2008). For example, in a survey conducted by Mason, Field, and Sawilowsky (2004), examining educators' perceptions of student involvement in their IEP meetings, most educators felt students' participation in their IEP meetings was "very important" even though actual student participation was low. In most cases, the student was present, but did not participate. Next, in an effort to establish an understanding of a typical IEP meeting, Martin, Van Dycke, Greene, et al. (2006) observed 109 IEP meetings in middle and high schools. Using 10s time sampling, the authors calculated the time each IEP team member spoke at the meeting, as well as other variables. Students participated 3% of the time while special education teachers spoke 51%. Nearly 22% of the students reported they had not had a conversation about their IEP prior to the meeting time. Martin, Van Dycke, Greene, et al. noted educators need to teach students skills to participate actively in their IEP meeting. More recently, Landmark and Zhang (2012) examined 212 IEP records across 22 LEAs to determine level of compliance with IDEA (2004) mandates, results indicated little evidence (i.e., 25.9%) of students exhibiting self-determination skill during IEP meetings as well as a lack of instruction in self-determination. This absence of opportunity for students to develop self-determination skills through participation in IEP meetings has been noted in

other studies as well (Konrad, 2008; Mason et al., 2004; Martin, Van Dycke, Christenson, et al., 2006; Martin, Van Dycke, Greene, et al., 2006). Woods et al., (2010) reminded practicioners that IDEA (2004) requires students' active engagement in the transition planning, and that students need to be taught how to participate in their IEP meeting. Simply inviting students to attend their IEP meeting without providing adequate training on how to participate technically resonds to the requirements, however not the intent of the law.

Evidence-Based Practices

Both IDEA (2004) and NCLB (2001) call for the use of "scientifically-based" practices in classroom instruction and supporting students' IEPs. To meet this need, researchers have been clarifying standards for evidence-based practices (e.g., Council for Exceptional Children, 2014; "Criteria," 2005; "Evidence-Based," 2009) and identifying practices which meet those standards and quality indicators (Test, Fowler, et al., 2009). Cook and Cook (2013) defined evidence-based practices as "practices that are supported by multiple, high quality studies that utilize research designs from which causality can be inferred and that demonstrate meaningful effects on student outcomes." (p. 73). Test, Fowler, et al. (2009) identified 32 interventions as evidence-based practices in secondary transition including strategies to teach IEP participation and self-determination skills, as well as two published IEP participation curricula, the *Self-Advocacy Strategy* (Van Reusen, Bos, Schumaker, & Deshler, 1994) and *Self-Directed IEP* (Martin et al., 1996). This list has been updated by the National Secondary Transition Technical Assistance Center (NSTTAC) to now include over 60 evidence-based transition interventions including *Whose Future IS IT Anyway*? (Wehmeyer, Lawrence, Garner, Soukup, &

Palmer, 2004) which teaches self-determination skills while instructing students in how to plan their transition from high school.

One published curriculum which has shown to increase student IEP participation is the *Self-Directed IEP* (Martin et al., 1996). The *Self-Directed IEP* program has been identified as an evidence-based practice (Test, Fowler, et al., 2009) and shown to be effective in several studies for increasing student IEP participation and leading their IEP meeting (Allen, Smith, Test, Flowers, & Wood, 2001; Arndt, Konrad, & Test, 2006; Kelley, Bartholomew, & Test, 2013; Snyder, 2002; Snyder & Shapiro, 1997; Uphold, 2008). For example, Arndt et al. (2006) examined the effects of *Self-Directed IEP* on participation level in planning their IEP meetings for high school students with various disabilities in a cross category classroom. Using a multiple baseline across behaviors design (i.e., instructional units), results indicated a functional relation between a *Self-Directed IEP* and the level of participation in mock IEP meetings. Additionally, Uphold (2008) examined the effects of a modified version of the Self-Directed IEP curriculum on the ability of four high school students with moderate intellectual disability to lead their IEP meetings. Using a multiple probe across participants design, Uphold measured the percentage of IEP steps completed independently, using a PowerPoint slide show program with picture prompts. Results showed a functional relation between the Self-Directed curriculum and the students' ability to lead IEP meetings.

Earlier studies examining the *Self-Directed IEP* curriculum (Martin, Van Dycke, Christensen, et al., 2006; Snyder, 2002; Snyder & Shapiro, 1997), used the Role-Play Checklist from Chapter 11 of the Teacher Handbook as a self-evaluative tool. Allen et al. (2001) and Uphold (2008) used a checklist as a scaffolding tool that incorporated both

self-monitoring and picture prompts for students with mild/moderate intellectual disability.

Self-Monitoring

Self-monitoring has been identified as an effective strategy for young students with autism (Odom et al., 2003) for reducing behavior problems (Sheffield & Waller, 2010) and has been studied as part of the self-directed learning in research to identify strategies which provided support for students with intellectual disability in the general curriculum classroom (Agran, Cavin, Wehmeyer, & Palmer, 2006; Agran et al., 2005; Agran, Wehmeyer, Cavin & Palmer, 2008; Hughes et al., 2002; Palmer, Wehmeyer, Gipson, & Agran, 2004). Self-monitoring is a process wherein students observe their behavior and then keep track of the data using a graph or some other recording system (Agran et al., 2005; Reid, Trout, & Schwartz, 2005). This immediate feedback helps students determine the next step based on their movement moving toward criteria (Rock & Thread, 2005), and becomes a motivational factor as well as reinforcement to the students (Agran et al., 2005).

Self-monitoring has been shown to be effective for building skills to enhance engagement in academic classrooms. For example, Agran et al. (2005) used a task analysis in the form of a self-monitoring checklist to teach middle school students with intellectual disability to follow directions in the general education classroom. Similarly, Coughlin, McCoy, Kenzer, Mathur, and Zucker (2012) found three elementary-age students with mild intellectual disability reduced their time off-task during independent academic work and increased time to complete the tasks using a self-monitoring guide with a cartoon visual cue.

Picture Prompts

The use of picture prompts to teach skills to individuals with intellectual disability has been investigated for several decades. For example, Martin, Rusch, James, Decker, and Trtol (1982) conducted the first component analysis to determine the effectiveness of picture prompts when teaching three adults with mild/moderate intellectual disability to cook. All three individuals had an immediate increase in their independence in performing the cooking task when shown the picture prompts of steps.

Likewise, Wacker and Berg (1983) taught five students with moderate/severe intellectual disability to complete multistep vocational tasks using picture prompts. Once trained, students were able to complete the tasks with or without the picture prompts although, picture prompts were needed when new tasks were introduced.

Component Analysis

Currently, the evidence-based practices for teaching student participation in the IEP (i.e., *Self-Directed IEP, Self-Advocacy Strategy, Whose Future Is It Anyway?*) are "packaged" interventions. Test et al. (2004) suggested taking a deeper look into the individual strategies that comprise interventions for increasing IEP participation to determine which components are essential for student success. A component analysis can be described as "a systematic analysis of two or more independent variable (components) that comprise a treatment package" (Ward-Horner & Sturmey, 2010 p. 685). Kennedy (2005) suggests using the component analysis to determine the "necessary parts of an intervention" (p. 72) and to "determine how that particular component affects behavior" (p. 72). Once identified, these components can be emphasized when disseminating research to inform educators how to implement with fidelity, increasing the social

validity of the intervention package (Ward-Horner & Sturmey, 2010; 2012). As a result, the process of component analysis is one way to strengthen the fidelity in which an intervention is conducted at the classroom level (Ward-Horner & Sturmey, 2010).

Component analyses can be conducted in several ways. Ward-Horner and Sturmey (2010), in a review of 30 studies using component analysis, described two methods for analysis, dropout and add-in. According to Ward-Horner and Sturmey, in dropout analysis, the whole intervention package is introduced to the participants from the start of intervention, then individual components are withdrawn one at a time to examine the effects. An advantage of this analysis is seeing the effects of the whole package up front, then as components are pulled out, the effects of losing certain components will be revealed. With add-in analysis, the participants are given components of the intervention package discretely or in smaller combinations before the package as a whole is introduced. Evaluation of the separate components independently is a benefit of using this analysis method. Add-in analysis is recommended for multiple baseline, reversal, and alternating treatment single-case designs to evaluate behavior change. This study will use an add-in method of component analysis with a multiple probe across participants design to determine need for the self-monitoring checklist as an essential component of the *Self-Directed IEP* curriculum for students with mild intellectual disability.

Potential Contributions

The *Self-Directed IEP* curriculum has been investigated as a package in several studies (Allen et al., 2001; Arndt et al., 2006; Kelley et al., 2011; Martin Van Dycke, Christenson, et al., 2006; Snyder, 2001; Snyder & Shapiro, 2002; Uphold, 2008) and

identified as an evidence-based practice (Martin Van Dycke, Christenson et al., 2006; Test, Fowler, et al., 2009). However, the current study will be the first to conduct a component analysis of the elements of the *Self-Directed IEP* to determine the effectiveness of the self-monitoring checklist with picture prompts as an essential component for students with moderate intellectual disability.

In addition, this study will add to the empirical research on teaching students the steps of the IEP process. While other studies have limited their investigations to measuring the amount of time spoken by IEP team members during the IEP meeting (Arndt et al., 2002; Martin, Van Dyke, Christensen, et al., 2006; Snyder, 2002; Snyder & Shapiro, 1997) the current study will follow Allen et al. (2001), Kelley et al. (2011) and Uphold (2008) in measuring the students' knowledge of the steps of the IEP as well. Finally, this study will examine the students' level of participation in pre- and post-intervention mock IEP meetings based on characteristics of engagement (e.g., eye contact, posture, frequency of asking questions, expressing opinions, and engaging in the discussion).

Purpose of the Study

Students can have a voice in their future when they are taught self-determination skills using student-directed instruction, as well as strategies to increase participation in transition planning activities. To ensure student success in these areas, educators need the skills to teach these concepts. Identifying critical parts of larger intervention packages, through component analysis, can enable educators use the intervention packages in the classroom with fidelity. The purpose of this study was to conduct a component analysis of the effectiveness of a self-monitoring checklist, as a component of the *Self-Directed*

IEP for students with mild intellectual disability, on knowledge of the steps for leading their IEP.

Research Questions

This study will address the following research questions:

1. What are the effects of the *Self-Directed IEP* curriculum with and without the self-monitoring checklist during probes?
2. What are the effects of students' use of the self-monitoring checklist on team members' participation during mock IEPs before intervention and after intervention is completed?
3. What are the effects of students' use of the self-monitoring checklist on team members' perception of student's level of engagement before intervention and after intervention?
4. What do students, teachers, and team members think of student's use of the self-monitoring checklist as a component of the *Self-Directed IEP*?

Delimitations

This Study will be delimited by the following:

1. This study will use a single-case research design and therefore cannot claim generalization to other individuals.

Definitions

Component Analysis – a systematic analysis of two or more independent variables (components) that comprise a treatment package (Baer, Wolf, & Risley, 1968; Ward-Horner & Sturmey, 2010)

Evidence-based practice – "practices that are supported by multiple, high quality studies that utilize research designs from which causality can be inferred and that demonstrates meaningful effects on student outcomes" (Cook & Cook, 2013, p. 7).

Individual Education Program (IEP) - a written statement for each child with a disability that is developed, reviewed, and revised in a meeting in accordance with IDEA (2004) 34 CFR 300.320 through 300.324.

IEP Participation – "students learn the skills necessary to be effectively involved in their IEP meeting when they are taught effective leadership skills, are provided the opportunity to participate and when the adult IEP team members expect student participation" (Martin, Van Dycke, Christensen, et al., 2006).

Intellectual disability – a disability characterized by significant limitations in both intellectual functioning and in adaptive behavior as expressed in conceptual, social, and practical adaptive skills. This disability originates before age 18 (Luckasson et al., 2002, p. 1).

Picture Prompts – a self-management tool using visual stimuli as a mediating variable (Martin et al., 1982). As an antecedent strategy, picture prompts "present a visual representation of the steps in a task sequence to cue or prompt the student to go through the sequence" (Wehmeyer, 2007).

Self-Advocacy Strategy - a transition planning program designed to teach self-determination skills to help students understand their disability and participate in their IEP and transition planning process using the I PLAN steps including Inventory, Provide inventory information, Listen and respond, Ask question, and Name your goal (Van Reusen et al., 1994).

Self-Determination – a "combination of skills, knowledge, and belief that enable a person to engage in a goal-directed, self-regulated, autonomous behavior. An understanding of one's strengths and limitations together with a belief in oneself as capable and effective are essential" (Field et al., 1998(a), p. 2).

Self-Directed IEP – an evidence-based practice which is a module of lessons within the "*Choosing Goals*" strand of the *ChoiceMaker Self-Determination Curriculum* and is designed to teach students the steps of an IEP meeting and how to lead their own IEP meetings (Martin et al., 1996).

Self-Monitoring – "a procedure whereby a person observes his behavior systematically and records the occurrence and nonoccurrence of a target behavior" (Cooper, Heron, & Heward, 2007, p. 590). "Self-monitoring enhances student motivation by transferring ownership of data collection from teacher to students and, by doing so, permits the student to assess and evaluate his or her own performance" (Agran et al., 2005, p. 11).

Student-Directed Instruction – "teaching students to use one or more self-directed instructional strategies to plan, perform, and monitor a task (Agran, 1997), including self-management strategies such as self-monitoring and self-recording (Wehmeyer, Agran, & Hughes, 2000).

Transition – "A change of status from behaving primarily as a student to assuming emergent adult roles in the community. These roles in include employment, participating in postsecondary education, maintaining a home, becoming appropriately involved in the community, and experiencing satisfactory personal and social relationships. The process of enhancing transition involves the participation and

coordination of school programs, adult agency services, and natural supports within the community" (Halpern, 1994. P. 117).

Transition Planning – "a process during which an individual, his or her parents, his or her educators, and adult service professionals come together to create an adaptive fit between the student's abilities, needs, and preferences and the requirements of the environment in which he or she will live as an adult" (McDonnell & Hardman, 2010, p. 4).

CHAPTER 2: REVIEW OF LITERATURE

Post-school outcomes for students with disabilities have traditionally been less favorable than for students without disabilities. This is evident in the data from the National Longitudinal Transition Study 2 (NLTS-2). For example, young adults with disabilities who had been out of school up to eight years compared to their same-aged peers, (a) only 60% enrolled in some postsecondary education program compared to 67%, (b) earned an average of $10.40 compared to $11.40 per hour, (c) lived independently 45% compared to 59%, and (d) had a checking account 59% compared to 74% (Newman et al., 2011). Encouragingly, data also indicated increases, although small, in post-school outcomes for most students with disabilities in recent years (Newman, Wagner, Cameto, Knokey, & Shaver, 2010; Newman et al., 2011). For students with intellectual disabilities, however, this increase in post-school successes has not grown at the same rate as students with other disabilities (Bouck, 2012; Bouck & Joshi, 2012; Newman et al., 2010). In an investigation of the NLTS-2 data for young adults with disabilities who had been out of school up to four years, Newman et al. (2009) illustrated differences in post-school outcomes for young adults with various disabilities. From those data, comparisons of young adults with intellectual disabilities to young adults with all disabilities revealed, (a) only 27.4% enrolled in some postsecondary education program compared to 44.7%, (b) 31% were employed at the time of the interview call compared to 56.8%, (c) 14.1% lived independently compared to 24.7%, and (d) 26.3%

had a checking account compared to 46.1%. Students with intellectual disabilities continue to fall behind in opportunities for postsecondary education, employment, and independent living options, indicating a need for strategies to help improve post-school outcomes for students with intellectual disabilities.

Studies show students' use of self-determination skills and transition planning strategies in the classroom may be a factor in changes in students' post-school outcomes. Wehmeyer and Schwartz (1997) first identified the link between self-determination and increased post-school outcomes for youth with intellectual disabilities and learning disabilities one year after high school, which was validated with Wehmeyer and Palmer (2003) who found similar results for youth with intellectual disabilities and learning disabilities who had been out of school for up to three years. In a study to investigate the relationship between self-determination, and knowledge and skill in transition planning activities, Wehmeyer et al. (2007) found students' level of self-determination influenced a students' knowledge and skill for transition planning. In addition, students' degree of knowledge and skill in transition planning activities influenced their level of self-determination for students with intellectual disabilities, learning disabilities, autism, emotional or behavioral disorders and other disabilities.

In summary, students with intellectual disabilities have not enjoyed the increased in post-school outcomes students as students with other disabilities. Fostering self-determination skills by teaching students to become more involved in their transition planning process, may be a way to increase post-school outcomes for students with disabilities. This review will examine literature, both theoretical and empirical, in areas of self-determination and student involvement in transition planning. Additionally, this

review will examine literature on student-directed instruction including self-monitoring and picture prompts, transition planning curricula including IEP participation strategies and the *Self-Directed IEP* curriculum, as well as component analysis.

Self-Determination

Self-determination has been defined as "a combination of skills, knowledge, and beliefs that enable a person to engage in goal-directed, self-regulated, autonomous behavior" (Field et al., 1998, p. 2). Similarly, Wehmeyer (2005) describes self-determined behavior, in the functional theory of self-determination, as "volitional actions that enable one to act as the primary causal agent in one's life and to maintain or improve one's quality of life" (p.117). According to Wehmeyer, self-determination is a process of growth for individuals as specific behaviors, which are the component elements of self-determined behavior are learned. These component elements include "choice-making skills, decision makings skills, problem-solving skills, goal setting and attainment skills, self-monitoring skills, self-advocacy skills, an internal locus of control, perceptions of self-efficacy and outcome expectancy, self-awareness, and self-knowledge" (Shogren et al., 2008, p. 95).

In order to develop an understanding of how self-determination had been used in research, Algozzine et al. (2001) examined interventions used to teach self-determination to students with disabilities from 1972-2000. Fifty-one studies were identified that met the inclusion criteria, and 22 were included in the meta-analysis, to identify effective strategies for teaching self-determination, as well as evidence that students can learn self-determination skills, and benefit from the strategies. Findings revealed the majority of the studies reviewed taught self-determination skills using choice-making with participants

with intellectual disability, and self-advocacy with participants with learning disabilities or intellectual disability, although self-management strategies were also found to be effective in teaching self-determination skills.

Next, in order to examine self-determination strategies for individuals with severe disabilities, Wood, Fowler, Uphold, and Test (2005) conducted a review of literature using the articles found in Algozzine et al. (2001), other literature reviews covering students with severe disabilities, as well as electronic and manual searches of articles from 2000-2005. Twenty-one studies were identified demonstrating effective strategies for teaching self-determination to students and adults with severe disabilities to make choices, self-manage, and problem-solve. While the majority of the studies measured students' choice-making behaviors (n = 10), five studies measured self-management skills including self-instruction and self-monitoring.

Impact of Self-Determination

To develop a better understanding of the connection between higher levels of self-determination and increased positive in-school and post-school outcomes, researchers have examined instructional programs used to teach self-determination skills (Cross, Cooke, Wood, & Test, 1999; Karvonen, Test, Wood, Browder, & Algozzine, 2004), and causal relationships between teaching self-determination and students' growth in self-determination constructs (Lee et al., 2012; Wehmeyer, Palmer, Shogren, Williams-Diehm, & Soukup, 2013).

First, Cross et al. (1999), in a study comparing the effects of two curricula to teach self-determination and IEP participation, (a) the McGill action Planning System (MAPS, Vandercook, York, & Forest, 1989) and (b) the *Choosing Employment Goals*

(Martin & Marshall, 1995) strand from the *ChoiceMaker* curriculum, found students benefitted from the self-determination instructions, demonstrating increased scores on both the self-rated Arc Self-determination Scale (Wehmeyer & Kelchner, 1995) and teacher-rated ChoiceMaker Self-Determination Assessment (Martin & Marshall, 1995). Although students had increased their level of self-determination, they did not demonstrate these self-determination skills during interviews or IEP meetings. Authors suggested instruction on using the self-determination skills was critical, although it must be accompanied with opportunities for student to practice these skills.

Second, Karvonen et al. (2004) examined six schools who were reported as strong promoters of school-wide self-determination to gain an understanding of how the schools taught self-determination and what were the successes and barriers. While the six schools used a variety of self-determination programs including the *Self-Advocacy Strategy* (Van Reusen et al., 1994), *Become Your Own Expert* (Carpenter, 1995), and *ChoiceMaker* (Martin & Marshall, 1995), as well as teacher-made curricula, results of the study identified common themes across the successful schools, including various roles teachers and parents would assume (e.g., mentor, supporter, advocate), an understanding of the need to respect and respond to students expressing self-determination, and to provide opportunities for students to practice newly learned self-determination skills.

Finally, in a three year study designed to identify causal effects of self-determination instruction on students' increased self-determination, Wehmeyer et al. (2013) followed 371 students with intellectual disabilities or learning disabilities across six states and 50 high school campuses. Students from half of the campuses received training with one of six self-determination programs including *ChoiceMaker* (Martin &

Marshall, 1995), *Next S.T.E.P.* (Halpern, Herr, Doren, & Wolf, 2000), *Self-Advocacy Strategy* (Van Reusen et al., 1994), *Steps to Self-Determination* 2nd ed (Hoffman & Field, 2005), *Whose Future is it Anyway?* 2nd ed; (Wehmeyer et al., 2004), or *Self-Determined Learning Model of Instruction* (*SDLMI*; Wehmeyer, Palmer, Agran, Mithaug, & Martin, 2000). Two self-determination assessments (a) *AIR Self-Determination Scale* (*AIR*: Wolman, Campeau, DuBois, Mithaug, & Stolarski, 1994) and (b) *Arc Self-Determination Scale* (*SDS*; Wehmeyer & Kelchner, 1995), as well as curriculum-based measures were administered to all students in control and experimental groups each year of the project. Results for the *AIR Self-Determination Scale* revealed all students had growth in self-determination rating from year one to year three, however, students with intellectual disabilities and learning disabilities in the experimental group showed significant increases over that time in self-determination ratings, while students with intellectual disabilities had more growth by year three on the *Arc Self-Determination Scale*, than students with learning disabilities.

In recent years, researchers have identified practices and predictors which lead to increased self-determination (Lee et al., 2012) and post-school outcomes for students with disabilities (Test, Mazzotti, et al., 2009). First, in an effort to identify predictors of self-determination using individual and instructional variables, Lee et al. (2012) studied the effects of self-determination instruction on 168 students' self-ratings on the *AIR Self-Determination Scale* and the *Arc Self-Determination Scale*, as well as transition planning knowledge and self-efficacy for educational planning on pre- and post-intervention measures. Multiple regression analysis identified self-efficacy as the best predictor of self-determination when using the *Arc Self-Determination Scale* and outcome expectancy

as the best predictor from the *AIR Self-Determination Scale*, with self-efficacy being the only variable which was identified as a strong predictor on both scales. A second variable found to be a strong predictor of self-determination on the *Arc Self-Determination Scale* was transition planning knowledge. Lee et al. (2012) also studied predictors for transition planning knowledge, finding three variable as predictors (i.e., IQ group, amount of prior transition planning instruction, score on self-determination scales) when using the *Arc Self-Determination Scale.*

Test, Mazzotti, et al. (2009), in a systematic review of studies examining secondary transition practices between 1984 and 2009, identified self-advocacy/self-determination as one of 16 secondary transition practices which lead to increased post-school outcomes in postsecondary education, employment, and independent living for students with disabilities. Specifically, self-advocacy/self-determination was positively correlated as a predictor for increased employment, as well as attending postsecondary education.

These studies confirmed the importance of teaching self-determination skills to students with disabilities and that students demonstrated higher self-determination after learning the strategies. To examine the long-term impact of teaching self-determination skills to students with disabilities, researchers (Wehmeyer & Palmer, 2003; Wehmeyer & Schwartz, 1997) conducted studies on students' level of self-determination after they exited from high school. First, Wehmeyer and Schwartz (1997), in a follow-up study investigating student post-school outcomes one year after high school, compared students' scores on a self-rated self-determination measure, Arc Self-Determination Scale (Wehmeyer & Kelchner, 1995) taken while still in high school. Two groups of students

with intellectual disabilities and learning disabilities were compared, those with higher self-determination scores and those with lower scores. Results showed students with higher self-determination in high school had better post-school outcomes than their peers with lower self-determination scores, particularly in the areas of employment and independent living. For example the students with higher self-determination scores in high school were more likely to (a) be employed, (b) maintain a checking and savings account, and (c) express a desire to live independently. Next, Wehmeyer and Palmer (2003) extended this focus to investigate post-school outcomes of students with intellectual disabilities and learning disabilities, up to three years after leaving high school. Results from this study indicated significant increases in life outcomes from year one to year three for students in the high self-determination group, including areas such as work benefits and signs of independent living. Students in the higher self-determination group were more likely to have jobs with benefits such as vacation time, sick leave, and health benefits. Likewise, these students were more likely to show signs of financial independence such as paying for their own groceries.

Summary of Impact of Self-Determination

In summary, results from these studies reveal a positive correlation between self-determination and transition planning involvement (Wehmeyer et al., 2007); that is, increased student training in self-determination may increase students' involvement in transition planning, and transition involvement may increase students' self-determination skills (Lee et al., 2012), which leads to increased post-school outcomes. As the relationship between the students' level of self-determination assessed while in school and the quality of life after high school (Wehmeyer & Palmer, 2003; Wehmeyer &

Schwartz, 1997) becomes evident, there has been a growing interest in helping students with disabilities develop these skills.

Student-Directed Instruction

Another way to provide students a voice, is to teach self-determination skills so students can have access to the general curriculum (Test, Mazzotti, et al., 2009). For many students with disabilities, opportunities for making decisions or choosing goals has been minimal at best. In proposing to turn the direction from teacher-directed instruction to student-directed instruction, strategies have been developed for teaching students self-determination skills in the areas of problem-solving and study-planning (Palmer et al., 2004), goal setting and attainment (Agran, Blanchard, & Wehmeyer, 2000), self-monitoring and self-instruction (Agran et al., 2006), and self-directed learning (Wehmeyer et al., 2000).

First, Wehmeyer et al. (2000) studied the effects of a self-directed learning strategy (i.e., SDLMI) on students' goal attainment and level of self-determination for 40 students with intellectual disabilities, learning disabilities, and emotional/behavioral disorders. Goal attainment was measured by teacher evaluation of students' progress in each goal after instruction, while global self-determination was measured pre- and post-instruction using the Adult Version of the *Nowicki-Strickland Internal-External Scale* (AND-IE; Nowicki & Duke, 1974), and selected questions from the *American Institutes for Research* (AIR) *Self-Determination Scale* (Wolman et al., 1994). Results showed educators were able to teach self-regulated behaviors which increased students' self-determination and enhanced their access to the general curriculum classroom. Through a process of choosing a goal, deciding how to work on the goal, and monitoring progress

on that goal, 55% of students were able to meet criteria for their goal or even surpass their stated goal.

Second, Agran et al. (2000) examined the effects of using the SDLMI program to teach 19 students with intellectual disabilities, learning disabilities, and multiple disabilities how to set goals, take action, and revise goals related to transitioning to life after high school. Using a delayed multiple baseline design across three groups, Agran et al. trained educators to teach students to use the SDLMI steps to attain their individual transition-related goals. While no functional relation was evident, 17 of the 19 participants met or surpassed the expectations of their teachers in meeting their goals. This study was significant as one of the first empirical data-driven studies to examine the merit of teaching teachers how to teach self-determination skills to students with disabilities and demonstrated the ability of students with intellectual disabilities to choose transition goals, take action toward those goals, and to achieve the goals.

Third, Palmer et al. (2004) used a modified Interrupted Time Series with Switching Replication (Cook & Campbell, 1979) design to determine the effects of teaching problem-solving and study planning strategies on students' ability to problem-solve and use the study planning strategies, as well as the level of self-determination for middle school and junior high school students with intellectual disabilities or learning disabilities. In this design, students were divided into two groups, each having the opportunity to be the experimental and control group alternatively. Each intervention group was taught a different self-determination skill tied to the general curriculum standards in one phase, and participated as the control group for the other phase. Findings revealed students were able to attain goals which would support access to the general

curriculum and increased students' knowledge and skills in self-determination components of problem-solving and study planning.

In summary, teachers taught students to direct their own learning through steps including (a) set a goal, (b) take action, and (c) adjust the goal or plan. By using the steps of self-directed learning, students learned how to be causal agents (Wehmeyer & Schwarz, 1997) for their own lives. As part of this self-directed learning process, once students learn to choose goals and learn how to problem-solve to attain those goals, they must also learn to monitor their own progress.

Self-Monitoring

Self-monitoring is another way students can take control of their learning through observing, recording their behavior (Browder & Shapiro, 1985). Cooper et al. (2007) defined self-monitoring as a "procedure whereby a person observes his behavior systematically and records the occurrence and nonoccurrence of a target behavior" (p. 590). "Self-monitoring enhances student motivation by transferring ownership of data collection from teacher to students and, by doing so, permits the student to assess and evaluate his or her own performance" (Agran et al., 2005, p. 11). Students are taught to observe their behavior over time and record their progress on a recording sheet or similar instrument. Students then evaluate their behavior against a criterion (e.g., goal set by themselves, teacher, or supervisor) and gauge their progress on reaching that criteria (Agran, 1997). Self-monitoring teaches students to self-regulate as they change their behavior based on self-observation, recording, and self-evaluation. According to several literature reviews, self-monitoring is an established component of self-determination which has been used to teach students of various disability groups (Algozzine et al.,

2001), such as individuals with severe disabilities (Browder & Shapiro, 1983; Wood et al., 2005), mild to severe disabilities and autism (Harchik, Sherman, & Sheldon, 1992), and students with learning disabilities (Reid, 1996). Self-monitoring literature has also been reviewed for its effects on problem behaviors (Sheffield & Waller, 2010), reading performance (Joseph & Eveleigh, 2011) and for supported employment (Storey, 2007). Consequently, self-monitoring has been identified as an evidence-based practice for students with autism (Odom et al., 2003). Self-monitoring has been used to teach supportive behaviors for inclusion in the general curriculum classes (Agran et al., 2005; Agran, et al., 2008; Hughes et al., 2002) and community settings (McGlashing-Johnson, Agran, Sitlington, Cavin, & Wehmeyer, 2003).

First, Hughes et al. (2002) investigated the effects of a self-monitoring system on students' individual goals to increase engagement in inclusive school settings such as (a) holding up head to interact with other students, (b) making verbal or motor responses with a peer, (c) writing names of tools on a worksheet in auto mechanics class, and (d) thanking customers when they paid for items at a school cookie sale. Using a multiple baseline across participants design, findings showed all four students learned to self-monitor their behavior and had increases in their chosen goals. Additionally, Hughes et al. measured the frequency the students used their self-monitoring system, finding a correlation between the frequency of self-monitoring and the achievement of desired goals.

Second, to examine the effects of the self-monitoring on students' completion of work-related task analysis at a community-based training jobsite, McGlashing-Johnson et al. (2003) used a multiple baseline across students design to teach four students with

moderate to severe cognitive disabilities. Results showed all four students increased performance of the work-related task using self-monitoring techniques within the self-directed learning strategy, with three of the four students reaching mastery criteria and staying at 80% or above in the maintenance phase.

Third, Agran et al. (2005) used a multiple-baseline across subjects design to investigate the effects of self-monitoring instruction on students' level of following directions for six middle school students with moderate to severe disabilities in general education classrooms. Teachers provided instruction on the self-monitoring procedure including (a) describe the target behavior to the student, (b) explain the reason for self-monitoring and how to use the self-recording checksheet, (c) practice with student in using the self-recording checksheet. Findings revealed all six participants increased the amount of following directions behavior using the self-monitoring procedure. This study demonstrates students with moderate to severe disabilities were able to self-monitor their behavior to support inclusion in the general education classroom and added to the literature on teaching students to use student-directed strategies.

Finally, similar to previous studies, Agran et al. (2008) investigated the effects of teaching students how to direct their own behavior and participate in health class using a self-directed learning strategy with self-monitoring. A multiple baseline across participants design was chosen to measure the percentage of times the participants performed behaviors identified as active classroom participation. Students were taught how to choose goals for themselves, how to design and use the self-monitoring sheet, and how to ask themselves questions to evaluate their progress toward the goal. Based on the self-evaluation, students would set a new goal for each day. Results revealed all students

increased their active participation in intervention, as well as maintenance suggesting a functional relation between the self-directed learning strategy and student performance on active participation in class.

Summary of Self-monitoring

Students with disabilities were able to increase performance of their chosen goals in the general education classroom (Agran et al., 2005, 2008; Hughes et al., 2002) and community-based job environment (McGlashing-Johnson et al., 2003). Students learned to self-regulate as they observed their behavior, recorded it, and checked their progress using self-monitoring.

Picture Prompts

While self-monitoring has been as a successful technique for teaching students across the disability spectrum to be more self-directed, for students with more significant disabilities, the addition of picture prompts or cues has also been shown to be effective as an antecedent strategy for teaching various skills to individuals with intellectual disabilities (Agran, Wehmeyer, Cavin, & Palmer, 2010; Connis, 1979; Copeland & Hughes, 2000; Martin et al., 1982; Rowe, Cease-Cook, & Test, 2011). As an antecedent strategy, picture prompts "present a visual representation of the steps in a task sequence to cue or prompt the student to go through the sequence" (Wehmeyer, 2007). For example, first the student is shown a picture of the step. Next, the student is taught how to perform the step using the picture prompt as a guide (Wacker & Berg, 1983). Finally, the student is taught to locate the picture prompt for the next step in a task analysis (McGlashing-Johnson et al., 2003). When used with self-monitoring, students and adults with intellectual and other developmental disabilities become self-directed learners as

they follow the picture prompts in lieu of teacher directions (Steed & Lutzker, 1997; Wacker & Berg, 1983), leading to increased dependence (Copeland & Hughes, 2000) and self-determination.

Two of the studies discussed in the self-monitoring section also incorporated picture prompts as part of the self-monitoring system (i.e., McGlashing-Johnson et al., 2003, Hughes et al., 2002). For example, two of the students in Hughes et al. (2002), used picture prompts along with the self-monitoring to teach students to engage in the general curriculum classroom (see above). One student was taught to refer to a laminated card with a black and white-line drawing of a person smiling and waving with written cues. The card, when placed on the desk by the student, was a reminder to look up at a peer when talking. Another student was taught to use a laminated picture book of 10 drawings representing a person waving with written cue and to turn the page of the book after completing the task.

Next, McGlashing-Johnson et al. (2003) used self-monitoring with picture prompts to teach four high school students with moderate to severe intellectual disabilities to increase steps in community-based work settings, as stated above. The students consulted the task analysis of their particular job, which they helped design, and marked the self-monitoring checksheet according to successful completion or not (i.e., √ or 0, X or 0). Additionally, other studies have used picture prompts.

Additionally, researchers have studied the use of using picture prompts to teach transition-related skills (Copeland & Hughes, 2000), and as part of self-directed learning strategy (Agran et al., 2010). For example, Copeland and Hughes (2000) examined the use of picture prompts booklets and self-monitoring techniques to measure two high

school students with multiple disabilities ability to initiate steps in a work-based task analysis, complete the step, pointing to picture prompt, and turn page of picture prompt book when step was completed. Using a multiple baseline across participants design, both students demonstrated increases in independent initiating and completing job tasks, as well as evidence of increase knowledge and skill in using the self-monitoring package with picture prompts.

Finally, Agran et al. (2010) gave three junior high school students with significant cognitive disabilities, a choice of strategies for taking action on their goals (i.e., self-instruction, picture prompts) in a study to examine the effects of SDLMI behaviors to leading to engagement in the general curriculum classroom. One of the students chose picture prompts. A multiple baseline across students design was utilized to teach public speaking strategies, asking for help from peers and teachers, and to use a recipe. Results, indicated all three students met criteria for mastery of their chosen goals, specifically, students were able to learn skills leading to advanced engagement in the general curriculum classroom.

Summary of Picture Prompts

Picture prompts have been used to help students with impaired reading or comprehension skills and have been shown to be effective for training students to increase engagement in the general curriculum classroom (Agran et al., 2010; Hughes et al., 2002) and vocational tasks in work-based settings (Copeland & Hughes, 2000; McGlashing-Johnson et al., 2003). As an antecedent strategy, picture prompts represent a visual cue to help students learn and follow a task analysis, and have been used with self-

monitoring to support self-directed learning (Steed & Lutzker, 1997; Wacker & Berg, 1983).

Summary of Student-Directed Instruction

Students can learn self-determination skills when taught with self-directed instruction strategies such as choosing a goal, deciding on a strategy to attain the goal, and monitoring progress towards the goal (Agran et al., 2000, 2006), problem-solving and planning skills (Palmer et al., 2004), as well as self-directed learning strategies (Wehmeyer et al., 2000). Self-monitoring has been used to teach (a) behaviors which support engagement in the general curriculum classroom (Agran et al., 2005; Hughes et al., 2002), (b) vocational tasks (McGlashing-Johnson et al., 2003), and (c) active participation in the classroom (Agran et al., 2005, 2008). Another method to increase self-determination skills through self-directed instruction is to teach students with disabilities to use picture prompts to self-regulate their behavior in classroom engagement activities (Hughes et al., 2002), and to follow a task analysis on a job site (Copeland & Hughes, 2000; McGlashing-Johnson et al., 2003). Self-directed instructional strategies can be used singularly, however often a combination of strategies is used.

Transition Planning

According to the Council for Exceptional Children (CEC), transition is defined as

> A change in status from behaving primarily as a student to assuming emergent adult roles in the community. These roles in include employment, participating in postsecondary education, maintaining a home, becoming appropriately involved in the community, and experiencing satisfactory personal and social relationships. The process of enhancing transition involves the participation and coordination of school programs, adult agency services, and natural

> supports within the community. The foundations for transition should be laid during the elementary and middle school years, guided by the broad concept of career development. Transition planning should begin no later the age 14, and students should be encouraged, to the full extent of their capabilities, to assume a maximum amount of responsibility for such planning (Halpern, 1994, p.117)

Halpern (1994) provides guidelines for this transition process including the promotion of self-determination, self-evaluation, identification of post-school transition goals, and selection of appropriate educational experiences. *Taxonomy for Transition Programming* (Kohler, 1996) divides transition planning into five areas, student-focused planning, student development, family involvement, program structures, and interagency collaboration. While the first strand in this literature review highlighted student development with an emphasis on self-determination skills and student-directed learning, this strand spotlights student-focused planning with an emphasis on teaching students to actively participate in their transition planning activities including their IEP meetings. The literature across both strands go hand-in-hand as self-determination skills and self-advocacy skills are essential ingredients in teaching students to participate in transition planning activities; likewise, learning to participate in transition planning such as IEP participation is an avenue to increase self-determination, leading to positive post-school outcomes (Test, Fowler, et al., 2009; Wehmeyer & Schwartz, 1997).

IEP Participation

Researchers started to scrutinize student participation in IEP meetings and the effects on students (Mason et al., 2002), as well as other IEP team members such as parents and general education teachers (Martin et al., 2004). First, Mason et al. (2002) examined the effects of systematically teaching students to lead their IEP meetings on

student involvement in IEP meetings for students with learning disabilities. Using teacher and student interviews and observations, findings showed students were able to plan and participate in the IEP meetings. Interviews showed students who were taught how to lead their IEP meetings gained self-confidence and self-advocacy skills, valued the goal setting process, and had better understanding of their disability. Parent participation in the IEP process was an additional benefit of student involvement in the IEP meetings.

Next, Martin et al. (2004) examined the effects of student involvement in IEP meetings on perceptions of IEP participants. Over a three year period, a questionnaire was given to all IEP participants from 393 IEP meetings of students with learning disabilities, mild to moderate intellectual disabilities, and emotional disabilities in middle school, junior high school, and high schools. Results showed parents and general education teachers felt more comfortable talking during the IEP meeting and had a better understanding of their next steps in the IEP process when students were present compared to when students were not present at their IEP meetings. Although 70% of the students attended their IEP meeting, results showed students scored lowest, next to general education teachers on items such as feeling comfortable talking at the IEP or understanding what their role was at the meeting. Special education teachers talked most in the IEPs in this study.

In order to gain a clear understanding of the workings of a typical IEP meeting, Martin, Van Dycke, Greene, et al. (2006) used momentary time sampling, observation, and post-meeting surveys to investigate who talked during the IEP meetings, leadership skills demonstrated by students, prior knowledge and perceptions of the IEP participants, and amount of conversations surrounding transition topics. Participants included special

education teachers, general education teachers, family members, administrators, support staff, and students from 109 IEP meetings for students with disabilities including learning disabilities, other health impairment, intellectual disabilities, and other disabilities from middle and high schools were involved in the study. Results revealed special education teachers spoke 51% of the time during the IEP meeting. Students spoke only 3% of the time during the IEP meeting, although 40% of the special education teachers and family members felt students contributed a lot during the IEP meetings. Students had less prior knowledge about the IEP process than any other participants, in fact 21% of students did not meet with a teacher to discuss the IEP before the meeting. Results of these studies emphasize the need for teaching students how to participate in their IEP meetings.

At the same time, research has demonstrated instructional strategies are available to increase student participation in their IEP meetings. First Test et al. (2004) conducted a review of literature of research investigating effective strategies for teaching students to participate in their IEP, finding students were able to learn how to be active participants in their IEPs using published curricula and person-centered planning. Second, Test, Fowler, et al. (2009) identified involving students in the IEP process as an evidence-based practice for all students with disabilities. IEP participation strategies and curricula have been developed to guide educators in teaching the self-determination and IEP participation skills.

As a result, several transition programs and curricula have been developed to provide teachers with a system for teaching IEP participation along with self-determination skills. First, *Next S.T.E.P. Student Transition & Educational Planning* (Halpern et al., 2000) program teaches students with disabilities to become more involved

in their transition planning using and to take charge of making decisions about their future. The program consists of four units (a) Getting to know myself, (b) Self-evaluation, (c) Setting and achieving goals, and (d) Sharing your goals and accomplishments. Zhang (2001) examined the effects of *Next S.T.E.P.* curriculum on self-determination of 19 ninth grade students with learning disabilities using an untreated control group design with pretest and posttest. Zhang measured students' self-determination using the *Arc's Self-Determination Scale* (Wehmeyer & Kelchner, 1995), finding a significant increase in self-determination for the treatment group, while the control groups' self-determination scored remained more constant.

Second, *Whose Future is it Anyway?* (Wehmeyer et al., 2004), is a student-directed transition planning program, which teaches self-determination skills such as self-advocacy, problem-solving, and goal-setting, so students with disabilities can more fully participate in their transition planning process. *Whose Future is it Anyway?* Is written in a student-friendly manner and is taught in 36 lessons over six sections (a) Getting to know you, (b) Making decisions, (c) How to get what you need, (d) Goals, objectives, and the future, (e) Communicating, and (f) Thank you, Honorable Chairperson. In a study to examine the effectiveness of the *Whose Future is it Anyway?* curriculum on self-determination for 493 middle and high school students with various disabilities including intellectual disabilities (n = 27%) and learning disabilities (n = 31%), Wehmeyer, Palmer, Lee, Williams-Diehm, and Shogren (2011) used a randomized –trial intervention. Results showed students in the intervention group had a significantly higher increase in self-determination measured on the *AIR Self-Determination Scale* (Wolman et al., 1994) than the students in the control group.

Third, the *Student-Directed Transition Planning* (Sylvester, Woods, & Martin, 2007) comes with eight lessons to teach students about awareness, how to envision their future, and how to connect with services. The program included the Student-Directed Summary of Performance (Martin, Van Dycke, D'Ottavio, & Nickerson, 2007), and two pre-post assessments the Transition Knowledge Test and Self-Efficacy Scale. To determine the effectiveness of the *Student-Directed Planning* curriculum on students' knowledge of transition terms and concepts as well as level of self-efficacy, Woods et al., (2010) conducted a study using a pre-post experimental design and random student assignment with 19 transition-age students with learning disabilities and other disabilities. Results showed a significant increase in transition knowledge and self-efficacy for the intervention group over the control group.

Fourth, another evidence-based practice is the *Self-Advocacy Strategy* (Van Reusen et al., 1994), a transition planning program designed to teach self-determination skills to help students understand their disability and participate in their IEP and transition planning process using the I PLAN steps (i.e., Inventory, Provide inventory information, Listen and respond, Ask question, Name your goal). Four middle school students with various disabilities including mild intellectual disabilities, learning disabilities, and behavior and emotional disabilities participated in a study by Test and Neale (2004) to examine the effects of the *Self-Advocacy Strategy* on students' level of self-determination using a pre-and posttest, and quality of verbal contributions on 10 probe questions about self-advocacy. Using a multiple probe across design, Test and Neale found students scored higher on a post-test of the *Arc's Self-Determination Scale* as well as an increase of scores on the probe questions after intervention showing a

functional relation between the *Self-Advocacy Strategy* and the quality of the students' verbal contributions.

Fifth, Cantley, Little, and Martin (2010) created the *ME! Lessons for Teaching Self-Awareness and Self-Advocacy*. This 10 lesson program teaches students the knowledge and skills they need to be actively involved in their transition planning and IEP meetings. Cantley (2011) conducted a study to examine the effectiveness of the *ME! Lessons for Teaching Self-Awareness and Self-Advocacy* on knowledge of disability, needs, strengths, interests, and self-advocacy for six high school students with learning disabilities, autism spectrum disorder, and emotional behavioral disorder. Using a mixed method design consisting of a multi-element baseline design for the quantitative research questions and phenomenological approach for the qualitative research questions, findings showed an increase in students' knowledge of their disability, needs, interests, and strengths, as well as an increase in their ability to use self-advocacy skills.

Finally, Martin and Marshall (1995) created the *ChoiceMaker Self-Determination Transition Curriculum*, which has three main components: (a) *Choosing Goals*, including employment, education, and personal (i.e., independent living); (b) *Expressing Goals* - teaches students to be actively engaged and be a leader in the IEP meetings (i.e., *Self-Directed IEP* curriculum) and (c) *Taking Action*, including learning how to attain annual transition goals.

Self-Directed IEP Curriculum

The *Self-Directed IEP* (Martin et al.,1996), an evidence-based practice (Test, Fowler, et al., 2009), is a module of lessons within the "*Choosing Goals*" strand of the *ChoiceMaker Self-Determination Curriculum* (Martin & Marshall, 1995), which is

designed to teach students the steps of an IEP meeting and how to lead their own IEP meetings. Research on the *Self-Directed IEP* lessons include one group study observing 130 IEP meetings (Martin, Van Dycke, Christensen et al., 2006), five published studies (Allen et al., 2001; Arndt et al., 2006; Kelley et al., 2011; Snyder, 2002; Snyder, & Shapiro, 1997), and two unpublished dissertations (Sweeney, 1997; Uphold, 2008).

First, Snyder and Shapiro (1997) used a multiple-baseline across four categories of behavior to examine the effects of the *Self-Directed IEP* on students score on a researcher-made behavior rating scale (i.e., Self-Direct IEP Behavior Rating Scale) for three high school males with emotional/behavior disorders in private school setting. The four behavior categories included (a) introduce who was at the meeting and purpose of meeting, (b) review past goals, (c) discuss future goals, and (d) close the meeting. Targeted behaviors were measured during a simulated IEP meeting, before and after the intervention was taught. The *Self-Directed IEP* had positive effects for two out of three students, who showed increased scores on the behavior rating scale. All three students showed an increase in job competency on the Self-Perception Profile for Adolescents subscale and agreed that the intervention would help them do better in school. This study was significant because it was the first study to use the *Self-Directed IEP,* showed the intervention was effective for students with emotional/behavior disorders, and reflected favorable responses from the students on social validity measure.

Second, Allen et al. (2001) conducted a study to examine the effectiveness of the *Self-Directed IEP* curriculum on student participation in IEP meetings for four high school students with moderate intellectual disabilities. Students participated in five mock IEP meetings, conducted after each instructional unit, and for generalization, two actual

IEP meetings held before the first mock IEP meetings prior to the intervention and at the end of the school year. Allen et al. used a multiple baseline across instructional units (i.e., leading meeting, reporting interests, reporting skills, and reporting options). Students were shown picture prompts for several of the steps to reinforce learning. Results indicated a possible functional relation between the modified *Self-Directed IEP* curriculum and student involvement in the IEP. Additionally, the change in student participation was statistically significantly different between the first real IEP meeting and the second IEP at the end of the year with a large effect size. This study extended research on the *Self-Directed IEP* to include the effectiveness of modified versions, demonstrated the use of picture prompts during the *Self-Directed IEP* for students who were non-readers, and included a thorough explanation of the process for using the *Self-Directed IEP*.

Third, Snyder (2002) investigated the effects of the *Self-Directed IEP* on behaviors within instructional units using the Self-Directed IEP Behavior Rating Scale for students in a separate setting high school for students with behavioral issues. Using a multiple baseline across instructional units, Snyder taught five students with emotional/behavioral disorders and mild intellectual disabilities the steps of the *Self-Directed IEP* curriculum, finding all students' scores on the SD-IEPBRS increased after instruction in the *Self-Directed IEP*. This study added to research literature showing that students who are taught to participate in IEP meetings, developed self-determination skills.

Fourth, in a study to examine the effects of the *Self-Directed IEP* curriculum on participation in IEP meetings, Arndt et al. (2006) used a multiple baseline across

behaviors (i.e., instructional units) design. Arndt et al. taught five high school students with various disabilities (i.e., mild intellectual disability, learning disabilities, other health impaired) the steps of the *Self-Directed IEP* and measured IEP participation by percentage of skills observes, results indicated a functional relation between a *Self-Directed IEP* and the level of participation in mock IEP meetings. Additionally, using a pre-and post-real IEP meetings as generalization, results showed an increase in student IEP participation in real IEP settings after being taught the *Self-Directed IEP* curriculum.

Fifth, in order to determine the effectiveness of the *Self-Directed IEP*, Martin, Van Dycke, Christenson, et al. (2006) used a pre-post experimental control group design and 10s momentary time sampling to determine the percent of time the IEP members talked throughout the IEP meeting and the leadership steps used. Findings showed students in the intervention group talked twice as often as students in the control group. Additionally there was a significant increase in (a) students starting meetings, (b) students leading meetings, (c) amount of time students talked during meetings, (d) students using leadership strategies, (e) students' positive feelings about meetings, and (f) time students and adults talked about transition issues.

Allen et al. (2001), Arndt et al. (2006), and Martin, Van Dycke, Christenson, et al. (2006) examined amount of participation during IEP meetings; however, data on students' knowledge of the IEP steps were not formally measured. Allen et al. (2001), suggested future research focusing on teaching all of the steps of the S*elf-Directed IEP* to teach students to lead their IEP meetings. This supports the need to teach and measure students' knowledge of IEP steps for successfully leading one's own IEP meeting.

Next, Uphold (2008) conducted a study to examine the effects of a modified version of the *Self-Directed IEP* curriculum on the percentage of IEP steps completed independently by four high school students with moderate intellectual disabilities. Using a multiple probe across participants design, Uphold taught participants the steps of the IEP with a Power point slide presentation together and picture prompts. Findings showed a functional relation between the *Self-Directed IEP* curriculum and the students' ability to lead meetings following the learned steps. Maintenance data were collected revealing participants were able to lead their real IEP meetings up to 14 days after the finishing training. Uphold made extended the literature on IEP participation by utilizing picture prompts for students with moderate intellectual disabilities. Additionally, the author suggested future research to conduct a component analysis of the *Self-Directed IEP* curriculum.

Finally, Kelley et al. (2011), in a study to investigate the effects of the S*elf-Directed IEP* lesson plans delivered with computer-assisted instruction (CAI) on students' participation in mock educational planning meetings. Three students ages 15 – 22 with various disabilities (i.e., learning disability in writing, mild intellectual disabilities, pervasive developmental disability with hearing and visually impairments), were taught to use the CAI version of the S*elf-Directed IEP*, which included a role-play component. A checklist of the IEP steps was presented to the students during the role-play section of each lesson. Each step was operationally defined and available scores for participation were (a) 0 = incorrect with no response/omission, (b) 1 = partially correct with completion, and (c) 2 = step was completed correctly and independently. Using a multiple-probe across participants design, Kelley et al. found a functional relation

between the *Self-Directed IEP* delivered with computer-assisted instruction and the students' ability to lead mock educational planning meetings. The change in students' ability to lead their pre- and post-intervention actual educational planning meetings demonstrated generalization of learned behavior.

Summary of Transition Planning

The *Self-Directed IEP* curriculum has been identified as an evidence-based practice (Test, Fowler, et al., 2009), and has been shown to be effective for students with a variety of disabilities including students with emotional/behavioral disorders (Snyder, 2002; Snyder & Shapiro, 1997), learning disabilities (Arndt et al., 2006; Kelley et al., 2011; Martin, Van Dycke, Christensen et al., 2006), mild intellectual disability (Kelley et al., 2011; Snyder, 2002), and moderate intellectual disability (Allen et al., 2001; Uphold, 2008). Research designs used in these studies include multiple baseline across instructional units (Allen et al., 2001; Arndt et al., 2006; Snyder, 2002; Snyder & Shapiro, 1997), pre/posttest control and intervention design with random assignment (Martin, Van Dycke, Christensen, et al., 2006), and multiple probe across participants (Kelley et al., 2011; Uphold, 2008). Participants in all the studies showed increase in participating or leading their IEP, in mock IEP settings and real IEP meetings. Most of the studies examining the *Self-Directed IEP* curriculum used the role-play checklist as part of the regular lessons as provided in the teacher handbook, however, two studies augmented the lessons with provided picture prompts for their students with moderate intellectual disabilities, as suggested by the authors (i.e., Martin et al., 1997). For example, Allen et al. (2001) used picture prompts to support reading and comprehension for lessons 1, 2, 6, 7, and 8, while Uphold (2008) used picture prompts in all of the

lessons of a PowerPoint presentation. More research is needed to examine the checklist with picture prompts as an essential component of the *Self-Directed IEP* curriculum for students with moderate intellectual disabilities.

Summary of Literature Review

Students with intellectual disabilities continue to lag behind students with other disabilities in terms of post-school outcomes in employment, postsecondary education, and independent living (Bouck, 2012; Bouck & Joshi, 2012; Newman et al., 2009, 2011). Providing students with training in self-determination and teaching them how to participate in their transition planning helps students have a voice and have more control on their outcomes. Considering the Wehmeyer and Schwartz (1997) findings that students' level of self-determination is related to the level of post-school outcomes, Algozzine et al. (2001) found students with disabilities can learn self-determination skills when they are given appropriate instruction. Wood et al. (2005) found students with severe cognitive disabilities were also able to learn self-determination when they were systematically taught the skills. To better understand this concept, Cross et al. (1999) compared self-determination curricula (i.e., *MAPS* and Choosing Employment Goals from the *ChoiceMaker* curriculum), while Karvonen et al. (2004) examined self-determination programs at six successful school, and Wehmeyer et al. (2013) taught students self-determination with six different programs. All three sets of researchers found teaching self-determination skills effective in changing students' level of self-determination. Karvonen et al. mentioned the need for teachers and parents to respect and honor the students' self-determination and to provide opportunities for students to practice their new skills. Lee et al. (2012) found the strongest predictors of self-

determination was the students' level of self-efficacy, following Test, Mazzotti, et al. (2009) identifying self-determination as one of 16 (now 17; NSTTAC, 2013) predictors of positive post-school outcomes.

Self-determination also can be used to help students gain access to the general curriculum through goal setting and attainment (Agran et al., 2000), problem-solving and study planning (Palmer et al., 2004), self-monitoring and self-instruction (Agran et al., 2006) using the Self-Determined Learning Model of Instruction (Wehmeyer et al., 2000). In studies to investigate the effects of self-monitoring, students were able to increase performance of chosen goals in the general education classroom (Agran et al., 2005, 2008; Hughes et al., 2002) and vocational settings (McGlashing-Johnson et al., 2003). For some students with moderate to severe disabilities, picture prompts are used in addition to self-monitoring in (Agran et al., 2010; Hughes, et al., 2002) and used with task analyses (Copeland et al., 2000; McGlashing-Johnson et al., 2003).

Student participation in transition planning activities is another way to give students a voice in their future. To date, three transition planning curricula have been identified as evidence-based practices (a) the *Self-Advocacy Strategy* (Van Reusen et al., 1994), (b) *Whose Future is it Anyway*? (Wehmeyer et al., 2004), and (c) the *Self-Directed IEP* (Martin et al., 1996). All three curricula teach students self-determination skills and how to be active participants in their IEP meetings. The *Self-Directed IEP* has been found effective with a variety of students with a variety of disabilities including emotional/behavioral disabilities (Snyder, 2002; Snyder & Shapiro, 1997), a combination of learning disabilities, mild intellectual disabilities, and other health impaired (Arndt et

al., 20062; Kelley et al., 2011; Martin, Van Dycke, Christensen, et al., 2006), and moderate intellectual disabilities (Allen et al., 2001; Uphold, 2008).

Component Analysis

Although the *Self-Directed IEP* curriculum is an evidence-based practice in itself (Test, Fowler, et al., 2009), educators need to know what individual components of the intervention may be significant to use for their students. Test et al. (2004) noted the importance of conducting an analysis of the individual components of larger evidence-based intervention packages, to assure correct usage of the interventions. A component analysis is a systematic analysis of two or more independent variables that comprise a treatment package (Baer et al. 1968; Cooper et al., 2007). Ward-Horner and Sturmey (2010) conducted the first review of interventions from 1972 to 2008, using component analysis with single-case experimental designs, their findings revealed 30 articles including, 10 using dropout component analysis (n = 10), of which three articles which measured all of the components of the intervention package combined (n = 3), no studies measured all components independently (n = 0), and six identified an essential component for at least one of the participants (n = 6). Eighteen articles were identified that used the add-in method of component analysis (n = 18), including two articles which measured all of the components for at least one participant out of 13 that identified an essential component (n = 13). The other five articles did not measure a component that was considered necessary in the intervention package (n = 5). Ward-Horner and Sturmey defined component analysis and created a system of notation for evaluating the design. Not included in the review by Ward-Horner and Sturmey was a component analysis conducted on the effectiveness of picture prompts to establish self-control in a cooking

task (Martin et al., 1982). Using a multiple-baseline design, Martin et al. (1982) taught three individuals with moderate intellectual disabilities to use picture prompts to independently complete steps of a recipe, findings showed an initial increase in completed independent steps for all participants which continued to increase for two of the participants. To date, there are no component analyses of interventions involving IEP participation interventions and curricula.

For students with limited reading and comprehension, picture prompts can be an important instructional aide for teaching task independence (Spriggs, Gast, & Ayres, 2007), self-regulation (Martin et al., 1982), and self-directed learning (Steed & Lutzker, 1997). When teaching the *Self-Directed IEP* curriculum to students with moderate intellectual disabilities, it is important to identify specific strategies which will make the intervention most accessible and more effective for students. Two previous studies taught students with moderate intellectual disabilities the steps of the IEP meeting (Uphold, 2008) and to participate in their IEP (Allen et al., 2001) using the *Self-Directed IEP* curriculum with picture prompts as picture prompts. It is important to determine the necessity of using the picture prompts when teaching IEP participation with the *Self-Directed IEP* for students with moderate intellectual disabilities. Therefore, the purpose of the current study is to conduct a component analysis to evaluate the effectiveness of the self-monitoring checklist with picture prompts on knowledge of the steps of the *Self-Directed IEP* for students with moderate intellectual disabilities.

CHAPTER 3: METHOD

Participants

Four students were chosen to participate in this study from one middle school and one high school within the same school district. To be included in this study, students had to meet the following inclusion criteria (a) 14-21 years old, (b) have a diagnosis of mild to moderate intellectual disability based on IQ scores between 70 and 40/45, (c) able to express needs and wants with verbal speech (e.g., I like to cook), and (d) have a good attendance record of missing no more than three days per semester. Students were excluded from the study if they (a) had already learned the *Self-Directed IEP* (Martin et al., 1996) strategy or any IEP participation strategy, or (b) had led their IEP meeting in the past. Pseudonyms, which the participants chose for themselves were used throughout the study. Prior approval for this study was sought from the Institutional Review Board (IRB) at the University of North Carolina at Charlotte, as well as in through the school district. Study information was provided to all participants and informed consent was obtained from the school district, Director of Special Education, school principals, teachers, and parents. Students were asked if they would like to participate and signed a Form of Assent. Although officially invited to the IEP meeting, none of the participants had ever attended in his/her IEP meeting in the past, nor were they aware of the school and transition goals written in their IEP document.

Alexander was a 14 year old Caucasian male with mild intellectual disabilities. He attended eighth grade and participated in the regular education setting for 39% of his school day. On his most current assessments available in the school cumulative folder, Alexander scored 41 on the *Wechsler Intelligence Scale for Children-II* (*WISC-IV*, Wechsler, 2003), which is in the extremely low range as compared to his same aged peers, and in the well below average range on the *Woodcock Johnson Tests of Achievement-III* (*WJ-III*, Woodcock, McGrew, & Mather, 2007), with scores for Broad Reading = 46, Broad Math = 20, and Written Expression = 41. On the *Adaptive Behavior Assessment System-III* (*ABAS-II*, Harrison & Oakland, 2003), Alexander scored in the extremely low range as recorded by his parent = 70, regular education teacher = 62, and his special education teacher = 55, whereas his score on the *STAR Reading* assessment (*Renaissance Learning*, 2014) was equivalent to 1.8 grade level.

T'lik was a 14 year old Caucasian male with multiple disabilities. He attended eighth grade and participated in the regular education setting for 39% of his school day. According to his most current assessments available in the school cumulative folder, T'Lik scored in the low normal learning rate/potential range (i.e., 86) on the *Wechsler Nonverbal Scale of Ability* (*WNV*, Wechsler & Naglieri, 2006) and on the Woodcock-Johnson Test-III his scores were Broad Reading = 62, Reading Comprehension = 67, Math Calculation = 56, and Written Expression = 69. On the *Test of Auditory Processing Skills* (*TAPS*, Martin & Brownell, 2005), his scores were, Standard Score = 61, Phonological = 66, Auditory Memory = 55, and Cohesion = 65, whereas his score on the *STAR Reading* assessment (*Renaissance Learning*, 2014) was equivalent to 1.3 grade level.

Mary was an 18 year old Caucasian female with mild intellectual disabilities. She attended tenth grade and participated in the regular classroom for 80% of her school day. According to her most current assessments available in her school cumulative folder, Mary scored 60 on the full scale *WISC-IV* (Wechsler, 2003) and on the *WJ-III* (Woodcock et al., 2007) her scores were Basic Reading = 71, Reading Comprehension = 64, Math Calculations = 57, and Written Expression 68. On the *ABAS-II* (Harrison & Oakland, 2003) General Adaptive Composite, she was scored by her parent = 74 and special education teacher = 54. Mary scored 80 which was below average compared to her same aged peers on the *Beery-Buktenica Developmental Test of Visual-Motor Integration* (*VMI*, Beery & Beery, 2004) and on the *Clinical Evaluation of Language Fundamentals - Fourth Edition* (*CELF-4*, Semel, Wiig, & Secord, 2003) her scores were Core Language = 70, Receptive Language = 66, and Expressive Language = 69.

Ray was a 15 year old Caucasian male with mild intellectual disabilities and other health impairment. He attended tenth grade and participated in the regular education setting for 80% of his school day. Ray had a diagnosis of Attention Deficit Hyperactivity Disorder, for which he took medication twice daily. According to the most current assessments in his school cumulative folder, Ray scored 51 on the *WISC-IV* (Wechsler, 2003), which was in the very low range of ability compared to his same age peers, and in the very low range on the *Differential Ability Scales-II* (*DAS*, Elliott, 2007), with a full scale score of 57. On the *ABAS-II* (Harrison & Oakland, 2003), he scored in the extremely low range as recorded by his mother and special education teacher. Ray exhibited an extreme processing deficit when assessed on the *VMI* (Beery & Beery, 2004). Additionally, on the Oral and Written Language Scales, Second edition (*OWLS-II*,

Carrow-Woolfolk, 1996), he scored 52 on the Listening Comprehension, which was in the extremely low range of ability, 52 on Oral Expression, and 49 on the Overall Composite, which is in the extremely low range.

Setting

The study was conducted in a middle school and high school in different areas of a large rural school district in the southeastern region of the United States. The school district had 30 elementary schools, two intermediate schools, 11 middle schools, 11 high schools, one alternative school, and one special needs separate school. The district serves approximately 32,176 students from preschool through 12 grade.

Baseline, intervention sessions, and mock IEP meetings were conducted in an empty classroom in each school to eliminate distractions from other students and to provide privacy. The experimenter and student sat at a table or arranged desks into a square to resemble a conference table, typical of an IEP meeting. At the middle school, all session took place in the morning before class began, while the rest of the class was doing community-based instruction in the cafeteria. In the high school, sessions were held in the last block of the school day. For the first semester students were in a study skills class, so participants would not miss formal instruction time. During the second semester, students were in a careers class. Intervention sessions were arranged so students would miss as little instruction as possible.

Materials

Materials to be used in this study were the *Self-Directed IEP* curriculum (Martin et al., 1996), which included a DVD video of Zeke leading his IEP meeting, teacher manual, and an experimenter-made self-monitoring checklist with picture prompts. Additional materials included a laptop computer with DVD player, headset for listening

to video on DVD, *Sony* Cyber-Shot digital video-recorder, and experimenter-made flashcards with picture prompts for vocabulary words.

Self-Directed IEP. The *Self-Directed IEP* (Martin et al., 1996) is part of the *ChoiceMaker Self-Determination Curriculum* (Martin et al., 1996), a curriculum designed to teach self-determination skills. The *ChoiceMaker Self-Determination Curriculum* has three strands, "*Choosing Goals*", "*Expressing Goals*", and "*Taking Action*". The S*elf-Directed IEP*, which is part of the "*Expressing Goals*" strand, is a student-centered approach to teaching the steps of the IEP meeting to students with disabilities. It has been shown to be effective as a tool to build students' ability to understand and engage in active participation in their IEP meetings. The *Self-Directed IEP* program incorporates a combination of video segments on DVD, vocabulary lessons, teacher-directed instruction, and student workbook activities in 11 steps.

The *Self-Directed IEP* curriculum video depicts a youth, Zeke, who explains the concept of leading his own IEP meeting to a friend along with vignettes of Zeke's IEP meeting demonstrating each step. This first segment gives background on IEP participation and a general overview of how to lead one's own IEP meeting form the student's point of view. Subsequent video segments show Zeke talking about completing each IEP step with a clip of Zeke's actual IEP meeting as an example of how that information was used. For students with mild/moderate intellectual disabilities, the full *Self-Directed IEP* and student workbook may be difficult to read, therefore the lessons were presented and practiced orally. Additionally, vocabulary was presented with picture prompts in a model-lead-test method.

For the purposes of this study, a modified version of the *Self-Directed IEP* was used, which includes nine of the original 11 steps combined into seven lessons. The lessons were (a) Begin meeting by stating a purpose; (b) Introduce everyone; (c) Review past goals and performance and Ask for others' feedback; (d) State your school and transition goals; (e) Ask questions if you don't understand; (f) State the support you'll need; (g) Summarize your goals and Close meeting by thanking everyone. The steps not included from the *Self-Directed IEP* curriculum were (a) Deal with differences in opinion and (b) Work on IEP goals all year. (see Appendix A for Modified *Self-Directed IEP*). Two of the lessons (i.e., Ask questions if you don't understand; State you the support you'll need) were taught within one unit since the participants consistently responded correctly to ask questions if they did not understand something during baseline probes and only needed a review of that step.

Student IEP checklist. Students were provided with a self-monitoring checklist with picture prompts (see Appendix B for Student IEP Checklist) during the lesson, Phase two enhanced intervention sessions, and mock IEP meetings. The checklist depicted the seven lessons of the modified *Self-Directed* IEP.

Laptop computer with DVD player. A laptop computer with DVD player was used by participants to watch videos of Zeke presenting his IEP meeting. Participants had access to a headset earphones for easier listening to the DVD, if they choose.

Digital video-recorder. Intervention sessions and mock IEP meetings were recorded with a Sony Cyber- Shot digital video-recorder for data collection purposes. Interventions sessions were recorded to measure treatment fidelity, whereas probes were recorded for collecting interobserver reliability. Pre- and post-intervention mock IEPs

were recorded to measure time talking of IEP team members and students' level of participation.

Experimenter

The experimenter and interventionist for this study was a doctoral student who had over five years of experience working with youth and adults with intellectual disability and autism spectrum disorders in public schools and habilitative workshop settings. She has worked on a state-funded grant, designing a secondary transition toolkit to improve post-school outcomes for students with intellectual disabilities across the state and on a federal-funded grant teaching school districts new model of transition planning with interagency collaboration. A doctoral candidate in school counseling, who was familiar with single-case research and special education, was trained in all aspects of the *Self-Directed IEP* data collection procedures and observed the video recordings of intervention sessions to measure procedural fidelity, as well as all probe sessions and mock IEPs to measure interobserver reliability.

Data Collection Procedures

The primary dependent variable was the number of correct independent responses on knowledge of the steps of the modified *Self-Directed IEP* which the student demonstrated when given probe questions related to each step of the IEP (see Appendix C for Probe Script). The experimenter collected data for all probes during baseline, intervention, and maintenance by marking correct responses for each step with a plus (+) for correct responses and minus (-) for incorrect responses on the Steps of the IEP Data Collection Sheet (see Appendix D). Definitions of correct and incorrect responses can be found in Appendix E.

A second dependent variable was the amount of time each participant talked during pre- and post-intervention mock IEP meetings. Video recordings of the mock IEP meetings were used to collect data using time sampling in 10s intervals (see Appendix F for the Data Collection Sheet for Time Talked in mock IEPs).

Knowledge of IEP steps. The primary dependent variable was the number of steps of the IEP the student stated correctly as described in the *Self-Directed IEP* Teacher's Manual (Martin et al., 1996). For this study, each step had been broken down into multiple responses to correspond with students' answers to each probe question (see Appendix D). For example probe question number one asked students to state the purpose of the IEP meeting. The appropriate response had three components (i.e., review goals, state progress, set new goals) and three possible data points. The total data points available for the primary dependent variable was 30. Mastery was set at 24 of 30 correct independent responses. Percentage of correct IEP steps was calculated by the number of correct responses divided by the number of possible responses (i.e., 30) multiplied by 100. Probe sessions were conducted at the beginning of each intervention session, before any instruction is initiated. During probe sessions, the experimenter asked the student the probe questions (see Appendix C). If the student provided the correct answer(s), the experimenter marked a plus (+) for each correct response and continued to the next probe question. If the student did not provide the correct answer or did not response within 10 seconds, the experimenter marked a minus (-) for incorrect on the data collections sheet and asked the next probe question. Students were not given additional prompts or feedback during probes (see Appendix E for Definitions of Correct and Incorrect

Responses). For baseline and intervention probes, the student were not given the Student IEP Checklist (see Appendix B).

Time talking in mock IEPs. The second dependent variable was the percentage of time each IEP team member talked during the mock IEP meeting generalization measures. In order for time spoken to be included, responses and conversation counted if related to transition or the IEP process. The mock IEP meetings were held before baseline began for each student and again after each student reached mastery. The Student IEP Checklist was available to students for both of their mock IEP meetings, although there was no previous discussion about the checklists prior to either mock IEP meeting. Along with the student and special education teacher; parents, and other school personnel were invited to participate in the mock IEP meetings. In the middle school, only the student, special education teacher, and experimenter were present. The experimenter represented the LEA, and name cards were arranged for missing IEP team members. In the high school, the teacher assistant attended the mock IEP meeting as the regular education teacher along with the student, special education teacher, and experimenter as LEA representative. All mock IEP meetings were video recorded. Using the time keeper on the computer's Media Player application, the experimenter and second observer independently watched the playback of video recordings and marked who was talking at the end of each 10s interval on the data collection sheet (see Appendix F for Data Collection Sheet for Time Talked in mock IEPs). Percentage of time spoken from pre- and post-mock IEP meetings was compared for each student and total intervals spoken were divided by total intervals for the IEP meeting times 100, equaling a percentage of time spoken for each student.

Interobserver reliability. The second observer was trained to collect interobserver reliability for the first independent variable, the number of correct independent responses on knowledge of the steps of the modified *Self-Directed IEP*, by observing several videos of baseline probes from two of the participants (i.e., probes not used for interobserver reliability collection) and independently scoring the responses. Ninety-two percent interobserver reliability was reached during training. Interobserver reliability data were collected by the second observer watching 30% of probe sessions videos across each phase and independently scored participants' responses as correct or incorrect on the data collection sheet. Item by item agreement for interobserver reliability was calculated, dividing the number of agreements by the total number of trials times 100 (Cooper et al., 2007).

Interobserver reliability was collected by seconded observer who watched 30% of the mock IEP videos and recorded who was speaking at the end of each 10s interval. An interval by interval agreement for interobserver reliability was calculated, dividing the number of agreements by the total number of trials times 100 (Cooper et al., 2007).

Social validity. Social validity data was collected from direct and indirect consumers. First, as direct consumers, the participants completed a questionnaire on the procedures of the intervention asking for their perceptions about using Student IEP Checklist with picture prompts. Participants were asked to circle yes, maybe, or no, with corresponding picture prompts on a three point Likert-type questionnaire about their perceptions of the intervention (see Appendix G). Teachers read the survey to students if needed.

Next, teachers, as indirect consumers, were asked to complete a questionnaire about the effectiveness and usefulness of the intervention to establish social validity on the procedures and outcomes. The survey was a three point Likert-type questionnaire asking teachers to circles agree, not sure, or disagree to questions on their perceptions of students' leadership during the IEP meetings, as well as teachers' perceptions of the *Self-Directed IEP* intervention (see Appendix H).

Third, members of the IEP team was asked to score participants' on levels of engagement during the mock IEP meetings. Team members who are present at both of the mock IEP meetings had first-hand knowledge of the changes in students' responses. Following each mock IEP meeting, IEP team members recorded their agreement on five statements on a Likert-type scale describing students' behavior during the mock IEP meetings including (a) student made eye contact with team members, (b) student sat up in chair, (c) student asked questions, (d) student expressed opinions/feelings, (e) student was engaged in discussion. The four point scale (i.e., 0 – 4) will range from none to always (see Appendix I for Social Validity – Level of Participation Measure).

Finally, teacher candidates in a masters level special education course at the university were asked to score participants' on levels of engagement during the mock IEP meetings. First the teacher candidates were trained on the characteristics of engagement (e.g., eye contact, posture, engaging in discussion). Second, they were placed in small groups, with each group assigned to watch the pre- and post-mock IEP videos for one participant. Last, each teacher candidate independently recorded their agreement on five statements on a Likert-type scale describing participants' behavior during the mock IEP meetings (see Appendix I for the Social Validity – Level of Participation Measure).

Research Design

A multiple probe across participants design (Horner & Baer, 1978) was used to investigate the effects of the *Self-Directed IEP* and self-monitoring sheet with picture prompts as a component of a modified *Self-Directed IEP* on students' knowledge of the steps of the IEP and time talking. This design was chosen to alleviate the opportunity for boredom or frustration with continuous multiple baselines (Cooper et al., 2007).

During baseline, each student was given a minimum of three consecutive baseline probes without the Student IEP Checklist with picture prompts, to determine pre-intervention level of performance. The student with the lowest and declining data during baseline was moved into intervention while the remaining participants continued to receive intermittent baseline probes. During intervention, probes, without Student IEP Checklist and picture prompts, were conducted before each instructional lesson (e.g., Session 1: lesson 1 alone; Session 2: probe #1, then lesson 2). When the participant in intervention reached mastery of at least 80% (i.e., 24 of 30 correct responses for three consecutive days, the participant moved into the maintenance phase. However, participants who completed the seven lessons and probes without reaching mastery, moved into Intervention Phase Two. During Intervention Phase Two, three additional probes were conducted using the Student IEP Checklist with visual prompts. If the participant reached mastery during Intervention Phase Two, they moved into maintenance. If the participant still did not meet mastery after three probes with the Student Checklist with picture prompts, they moved into Intervention Phase Three, which consisted of individualized booster sessions with the Student IEP Checklist with visual prompts on the steps they had previously missed.

When the first participant reached mastery or entered Intervention Phase Two, baseline probes were conducted for remaining participants. The next participant with the lowest stable or declining data points moved into the Intervention Phase. The remaining participants followed the same procedures for the intervention phase and moved into maintenance if mastery was met or moved into Intervention Phase Two if mastery was not met. Maintenance consisted of one probe a week for two weeks after mastery was met.

Procedures

A component analysis will be used to determine the effects of the self-monitoring checklist with picture prompts on participants' knowledge of the steps of the *Self-Directed IEP*. After baseline, up to three phases of the intervention will be presented with and without the self-monitoring checklist. See Figure 1 for a diagram of the procedures.

Baseline. Consents and student assents for participation and video recording were obtained from all participants, according to the University of North Carolina Institutional Review Board procedures. For each probe session, the experimenter greeted the student and asked probe questions from the Probe Script (see Appendix C for Probe Script). The Student IEP Checklist was not presented to the participants during baseline probes. If the participants responded correctly to probe questions, the experimenter marked correct on the data collection sheet and probed with the next question. If the participant responded with an incorrect answer, the experimenter marked incorrect on the data collection sheet and probe with the next question. If the student did not answer within 10s, incorrect was marked on the data collection sheet and the next probe was presented. The experimenter gave no feedback during the baseline sessions other than to thank them for participating

and acknowledged moving to the next probe question by stating, “Okay” or “I’ll go on to the next question now”. Each student participated in a minimum of three probe sessions during baseline or until a stable or decreasing trend was determined.

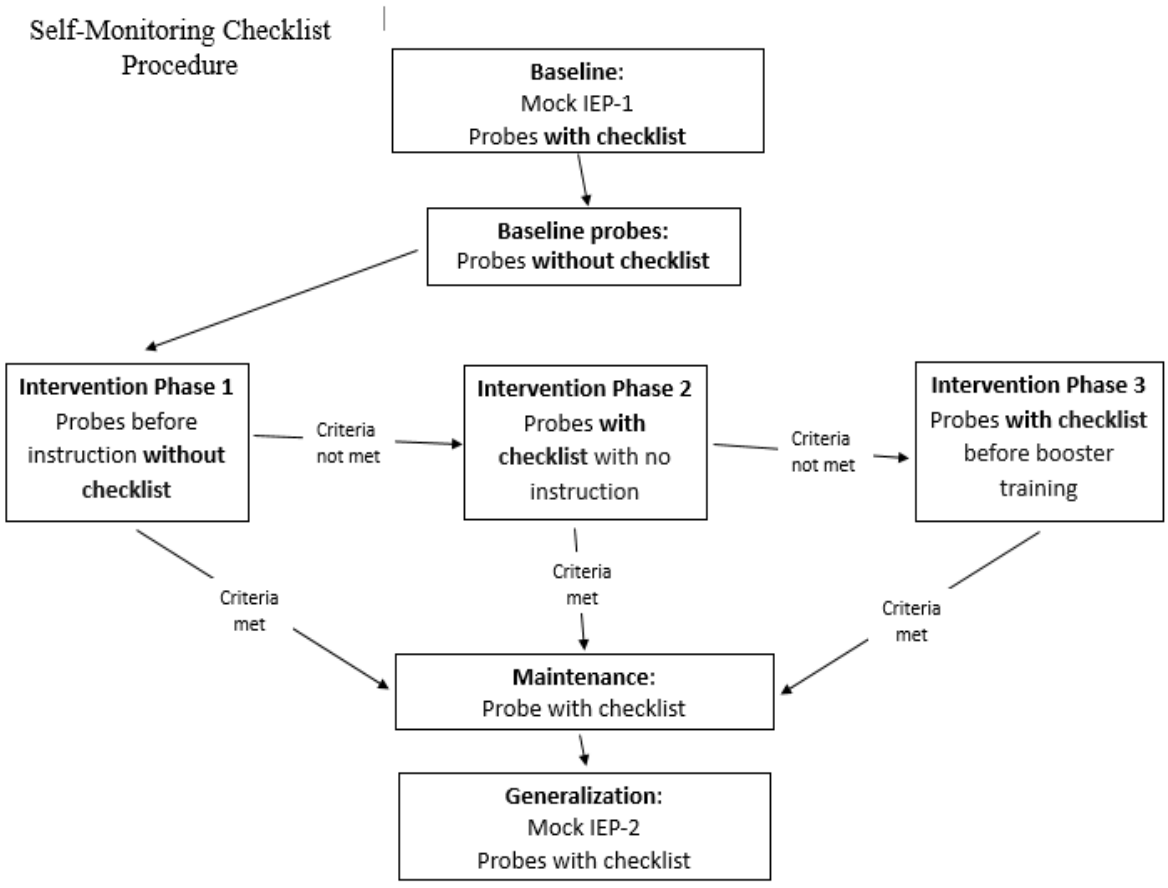

Figure 1: Diagram for Self-Monitoring Checklist procedures.

Phase one procedures. To begin each session, the experimenter first collected probe data using the same probe questions and procedure as in baseline. The Student IEP Checklist with picture prompts was not available to participants in the intervention probes. Next, the intervention was delivered with a combination of (a) video vignettes of Zeke telling a friend how he participated in his IEP and (b) instruction by the

experimenter using a model-lead-test method with practice and role-play. The Student IEP Checklist was used during instruction when students were learning the new lesson, practicing the lesson learned in that session, and for role-play. The Student IEP Checklist had seven sections with picture prompts and spaces for the student or experimenter to write the correct answers during intervention practice. As students reviewed the lesson in a role-play situation with the experimenter, students marked the Student IEP Checklist with picture prompts when they correctly demonstrated knowledge of an IEP step and stated the appropriate information. The Student IEP Checklist with picture prompts were not provided during probes in phase one of the intervention.

Next, the experimenter taught the steps of the IEP meeting using the Student IEP Checklist with picture prompts along with other components of the modified *Self-Directed IEP* intervention. The experimenter reviewed previous lessons, previewed the lesson for the day using the picture prompts on the Student IEP Checklist, and introduced new vocabulary for the lesson. Vocabulary words were presented on index cards with the word and visual cue. Next the participant watched a video segment about Zeke leading his IEP meeting (e.g., student listed each team member by name and role) and discussed the contents of the video with the experimenter. The participant and experimenter orally reviewed the workbook material, wrote the answers for the step on the Student IEP Checklist, and practiced the step using the Student IEP Checklist. Finally, the experimenter and participant role-played the IEP meeting (see Appendix J for Lesson Format). If the participant had difficulty stating a step, he/she was directed to the Student IEP Checklist for guidance. Upon completion of the lesson, the experimenter thanked the participant for cooperating in the session. To give each lesson similarity in length and

difficulty, lesson three covered two topics (a) Review your past goals and (b) Ask for feedback. Lesson four, combined three topics: (a) Education: interests, skills, limits; (b) Work: interests, skills, limits; and (c) Independent living: interests, skills, limits. Lesson five: Ask questions if you don't understand, and Lesson six: State the support you will need were also combined and presented in the same session.

Phase two procedures. Students who did not meet mastery criteria after completing the seven lessons and probes in Phase One moved into Phase Two, wherein an enhanced intervention was introduced in which the Student IEP Checklist with picture prompts was provided as a self-monitoring tool. This phase consisted of three probe sessions, without instruction, which were administered to provide the students additional opportunities to meet mastery criteria. The Student IEP Checklists were provided during Phase Two probes to analyze the effects of the checklists on student performance.

Phase three procedures. If mastery was not met in Phase Two, students were given individualized booster sessions based on the IEP steps they responded to incorrectly during previous probes. The Student IEP Checklists with picture prompts were available to participants during Phase Three probes.

Maintenance. As participants met mastery criterion, they moved into the maintenance phase of the intervention to determine if students were able to retain the skills learned. Participants were asked questions from the probe script and maintenance data was collected, one week after mastery criteria is met. For participants who met criteria in Phase Two or Three, the Student IEP Checklist with picture prompts was available during maintenance probes.

Generalization. Two mock IEP meetings were conducted for each of the participants, as generalization measures. The first mock IEP meeting occurred before baseline as a pre-intervention generalization, and the second occurred during maintenance as post-intervention generalization. Members of the participants' IEP team were invited to participate in the mock IEPs and the special education teacher was asked to conduct the meetings to make them as authentic as possible. The experimenter stood-in for the Local Education Agency representative and name cards were placed at the table for any missing IEP team members. In the high school setting, the job coach was attend the mock IEP-1 meetings and mock IEP-2 for Ray. The regular education teacher attended Mary's mock IEP-2. During both mock IEP meetings, the Student IEP Checklist with picture prompts was available for students to use, but students were not prompted to use them. The special education teacher used the modified *Self-Directed IEP* Probe Script (see Appendix C) to ask the participants probe questions aligned with the steps of the IEP meeting. If participants did not response within 10s or responded incorrectly, the special education teacher stated the correct answer and moved onto the next probe question. Mock IEPs were video-recorded for data collection on both dependent variables, knowledge of steps of the IEP, and time talked. Social validity was also be collected.

Procedural reliability. Procedural reliability was collected by the second observer for 30% of intervention sessions for each participant. A procedural checklist (see Appendix K) was used to evaluate the accuracy of intervention delivered to ensure procedures were followed with fidelity. The second observer watched the video recordings and marked on the Procedural Reliability Checklist if the step is observed or heard. To determine procedural reliability, the total number of observed steps were

divided by the total number of available steps and multiplied by 100 (Cooper et al., 2007).

CHAPTER 4: RESULTS

Interobserver Reliability

For the primary dependent variable, number of correct responses on the steps of leading the IEP, a second observer collected interobserver reliability data by watching videos of 56% of baseline probes, 60% of intervention Phase One probes, 42% of Phase Two probes, 67% of Phase Three probes, 50% of maintenance probes, 88% of generalization probes. Overall interobserver reliability was 86% (range 73%-100 %). The mean score for interobserver reliability was 93% (range 73%-100%) for baseline probes, 89% (range 73%-100%) for Intervention Phase One probes, 92% (range 87%-97%) for Phase Two probes, 92% (range 90%-93%) for Phase Three probes, 95% (range 90%-100%) for maintenance probes, and 95% (range 93-100%) for generalization probes.

For the second dependent variable, amount of time team members talked during mock IEPs, the second observer collected interobserver reliability by watching 88% of the mock IEP videos. Overall, the mean score for interobserver reliability was 83% (range 72%-91%). Mean interobserver reliability for mock IEP-1 was 80% (range 72%-89%), while the mean score for interobserver reliability for mock IEP-2 was 85% (range 82%-91%). Three of the students spoke with hushed tones during both pre-and post-mock IEPs making it difficult to determine if they were speaking or being silent on the video recordings. For example, T'Lik held his hand over his mouth muting many of his responses

Procedural Reliability

A second observer collected procedural reliability data by watching videos of 34% of the intervention sessions. Procedural reliability was calculated and scored at 88% with a range of 70%-100%.

Effects of Intervention on Dependent Variables

Research Questions 1: What are the effects of the *Self-Directed IEP* curriculum with and without the self-monitoring checklist during probes?

Figure 2 presents the number of correct responses for knowledge of the steps of the IEP for all four participants. Results indicate a functional relation between the *Self-Directed IEP* curriculum and the number of correct responses on the steps of the IEP. There were a total of 30 possible correct responses and mastery criteria was set at 80% or 24 out of 30 correct responses.

Alexander. During baseline, Alexander's data for correct responses on the steps of his IEP showed a steady and declining trend (M=0.5, range 0-1). For most of the baseline probes, Alexander responded by shaking his head and mouthing the words, "I don't know." When the intervention probes were given, Alexander continued to respond by shaking his head for most of the probes (M = 0.3, range 0-2), with his most consistent correct response being that his mother was part of his IEP team. Alexander showed an immediate change in level when the Student IEP Checklist was introduced, followed by an immediate decline in trend for two data points, with Alexander only shaking his head when asked each probe question (M=7.3, range 1-16). Since Alexander did not meet mastery criteria in Phase Two, he moved into Phase Three which included booster training on the parts of the IEP steps which he answered incorrectly or not at all in the

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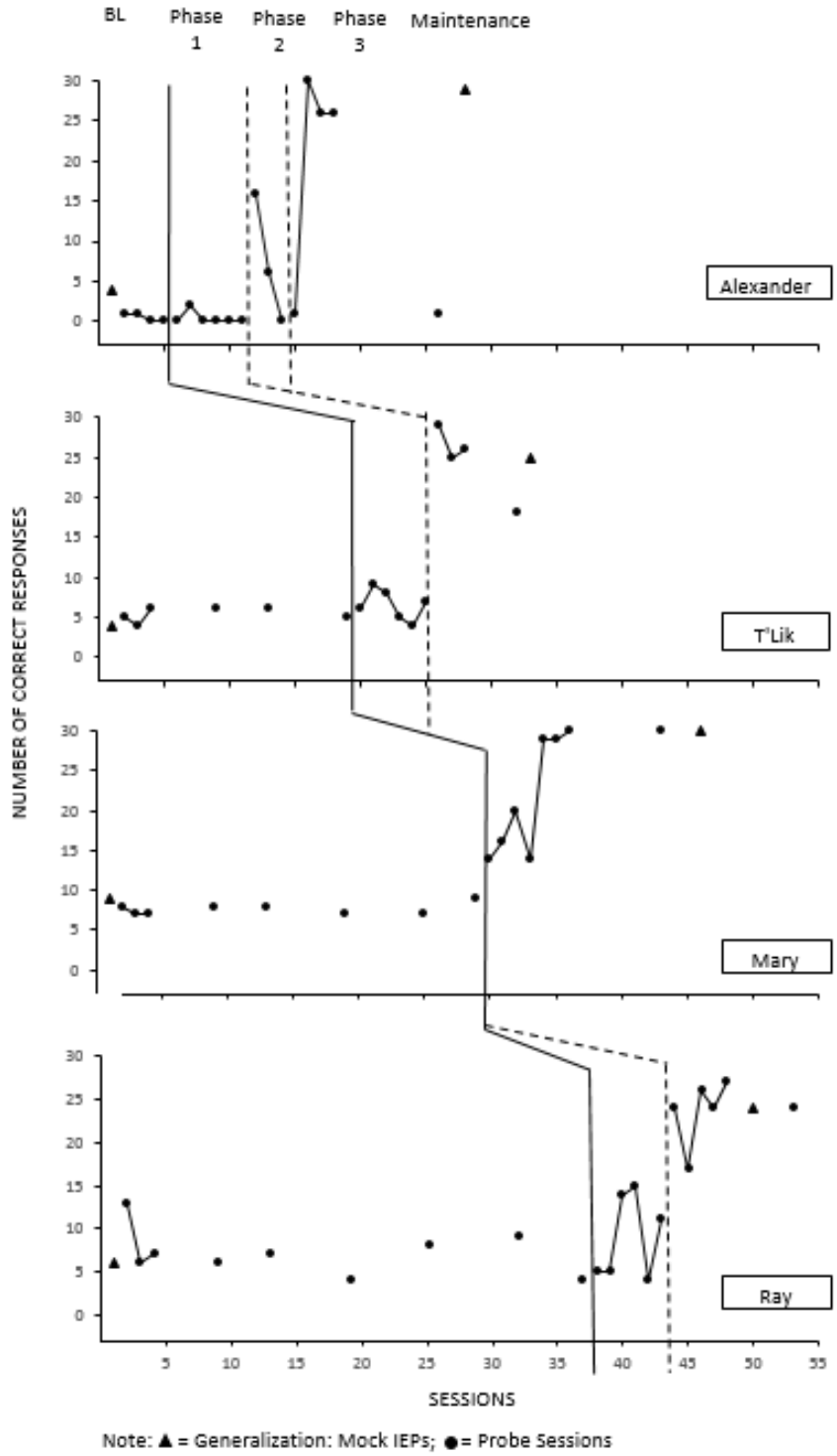

Figure 2: Graph of modified *Self-Directed IEP* with self-monitoring checklist.

previous probes. Provided with the Student IEP checklist and booster sessions, Alexander met criteria on Phase Three probe two and stayed above mastery criteria for three consecutive days (M = 27.3, range 26-30). Alexander was given a maintenance probe one week after meeting criteria in which he shook his head and did not answer any questions. Discussion with Alexander's special education teacher revealed Alexander commonly demonstrated similar behavior in her classroom (i.e., shaking his head and refusing to speak or answer questions even when he knows the material). Before Mock IEP-2, Alexander's teacher asked him to be courteous and answer probe questions if he knew the answer. Alexander's number of correct responses increased from four (4) during mock IEP-1 to 29 for mock IEP-2 (see Figure 2).

T'Lik. During baseline, T'Lik's data for correct responses on the steps of his IEP showed a stable trend (M=5.3, range 4-6). T'Lik responded to most of the baseline probes by saying, "I don't know," however, he consistently responded to certain probe questions including (a) who is on your IEP team? (i.e., "my mother"), (b) for employment, what do you want to do? (i.e., "get a job"), (c) What to do if you do not understand something? (i.e., "ask questions"), (d) summarize your school goal. (i.e., "A-B Honor Roll"), and (e) what do you do at end of IEP meeting? (i.e., "say thank you"). When intervention probes were given, T'Lik's responses were similar to baseline, stating, "I don't remember" to most of the questions along with the same correct responses as during baseline (M = 6.5, range 4-9). New consistent responses during intervention probes included support for his education goal (i.e., "Mrs. Joseph," his special education teacher). Since he had not met mastery criteria of 24 out of 30 in Phase One, T'Lik moved into Phase Two and showed an immediate change in level when the Student IEP Checklist was introduced. T'Lik met

mastery criteria for three consecutive days (M = 26.7, range 25-29) in Phase Two and did not enter Phase Three. T'Lik was given a maintenance probe one week after meeting criteria and had 18 correct responses to the probes. Although this was below mastery level, the number of correct responses was significantly higher than before intervention. For generalization, T'Lik's number of correct responses increased from four (4) during mock IEP-1to 25 for mock IEP-2 (see Figure 2).

Mary. During baseline, Mary's data for correct responses on the steps of her IEP showed a stable trend (M=7.6, range 7-9). Mary responded to most of the baseline probes by stating, "Not sure;" however, she consistently responded to certain probe questions including (a) what are goals you are working on now? (i.e., "trying to graduate," "working hard in school"), (b) for education, what are you good at? (i.e., "writing"), (c) for education, what is hard for you? (i.e., "understanding the work"), and (d) summarize your school and education goals (i.e., "graduate," "go to college"). Before completing Phase One of intervention, Mary met mastery criteria of 24 out of 30 correct responses for two consecutive days. Since she had progressed in that phase, she was given an additional probe and met criteria for three consecutive days (M = 29.3, range 29-30) and did not move into Phase Two. Mary was given a maintenance probe one week after meeting criteria and scored 30 (i.e., 100%) correct responses to probes questions. For generalization, Mary's number of correct responses increased from nine (9) during mock IEP-1 to 30 for mock IEP-2 (see Figure 2).

Ray. During baseline, Ray's data for correct responses on the steps of his IEP showed a slightly variable trend (M=7.1, range 4-13). Ray responded to most of the baseline probes by stating, "I don't know;" however, he consistently responded to certain

probe questions including (a) for education, what do you want to do? (i.e., "go to college"), (b) for education, what is hard for you? (i.e., "focusing in class"), and (c) for work, what do you want to do? (i.e., "get a good job"). When Phase One intervention probes were conducted, Ray did not show an immediate increase in correct responses, and had variable responses across that phase (M = 9, range 4-15). Since he had not met criteria in Phase One, Ray moved into Phase Two and showed an immediate change in level when the Student IEP Checklist was introduced. Although Ray met criteria on the first probe in this phase, his subsequent probe responses were highly variable. Ray continued to receive Phase Two probes (i.e., total of five probes) until he met criteria for three consecutive days (M = 25.7, range 24-27). Ray was given a maintenance probe one week after meeting criteria and responded correctly to 24 of the probes. For generalization, Ray's number of correct responses increased from six during mock IEP-1 to 24 for mock IEP-2 (see Figure 2).

Generalization

Figure 2 presents the number of correct responses for knowledge of the steps of the IEP during mock IEP meetings. Results reveal an increase in knowledge of steps of the IEP for all four participants. The Student IEP Checklist was presented to participants to use for pre- and post-intervention mock IEP meetings. During mock IEP-1, Alexander had four correct responses to probe questions and increased to 29 correct responses to the probe questions during mock IEP-2. During mock IEP-1, T'Lik had four correct responses to probe questions and increased to 25 correct responses to probe questions during mock IEP-2. During mock IEP-1, Mary had nine correct responses to probe questions and increased to 30 correct responses to probe questions during mock IEP-2.

During mock IEP-1, Ray had six correctly responses to probe questions and increased to 24 correct responses to probe questions during mock IEP-2.

Research Question 2: What are the effects of students' use of the self-monitoring checklist on team members' participation during mock IEPs before intervention and after intervention is completed?

Figure 3 presents the amount of time IEP team members talked during the mock IEP meetings. The amount of time each IEP member talked was determined stopping the video recording at each 10 second mark and indicating who was talking on the data collection sheet. At the high school, the mock IEP team members included the student, special education teacher, regular education teacher or job coach, and the experimenter. At the middle school, the mock IEP team members included the student, special education teacher, and experimenter.

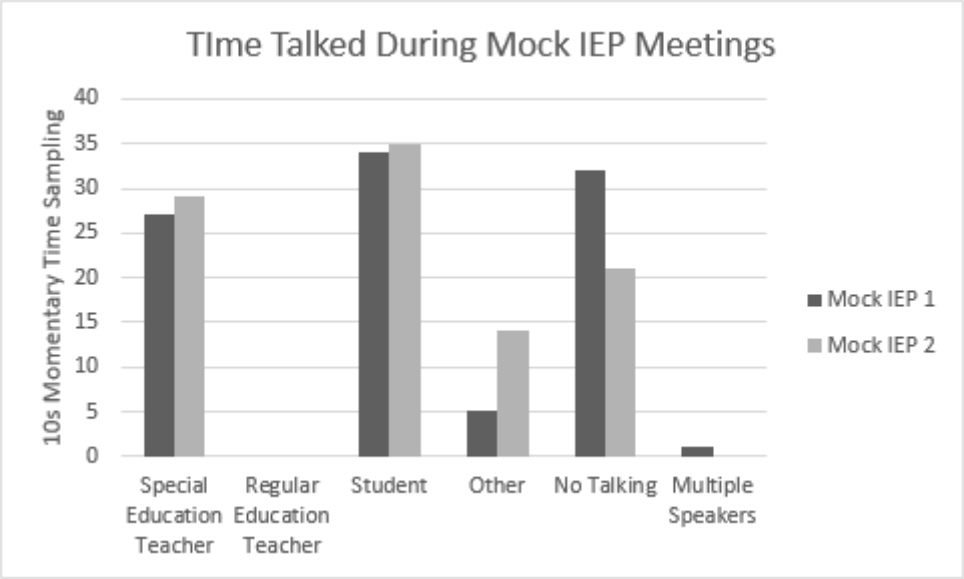

Figure 3: Percentage of time IEP team members talked during the mock IEP meetings.

During mock IEP-1, students talked 34% of the time, while 32% of time no one was talking. Special education teachers talked 27% of the time, other people spoke 5%, multiple speakers talked 1% of the time, and regular education teacher or job coach did not speak. During mock IEP-2, students talked 35% of the time, while only 21% of time no one was talking Special education teachers talked 29% of the time, other people spoke 14%, and multiple speakers talked 0% of the time, and regular education teacher or job coach did not speak (see Figure 3).

Social Validity

Research Question 3: What are the effects of students' use of the self-monitoring checklist on team members' perception of student's level of participation before intervention and after intervention?

Social validity data were collected on students' level of engagement during the pre-and post-intervention mock IEP meetings. Members of the mock IEP team who were present for both mock IEP meetings were asked to record their agreement on five statements on a Likert-type scale (0 – 4) describing the level of students' engagement during the mock IEP meetings from None to Always. Figure 4 presents mock IEP team members' perception of participants' engagement in their mock IEPs.

Mock IEP team members rated participants' level of making eye contact with a mean score of 2.2 (range 1-4) during the pre-mock IEP and mean score of 2.2 (range 1-4) during the post-mock IEP. Mock IEP team members rated participants' level of sitting up in the chair with a mean score of 3.2 (range 2-4) during the pre-mock IEP and mean score of 3.3 (range 2-4) during the post-mock IEP. Mock IEP team members rated participants' level of asking questions with a mean score of 1.2 (range 0-4) during the pre-mock IEP

and mean score of 1.5 (range 0-3) during the post-mock IEP. Mock IEP team members rated participants' level of expressing opinions/feelings with a mean score of 1.7 (range 0-3) during the pre-mock IEP and mean score of 1.8 (range 0-4) during the post-mock IEP. Mock IEP team members rated participants' level of engagement in discussion with a mean score of 2.5 (range 1-4) during the pre-mock IEP and mean score of 2.5 (range 1-4) during the post-mock IEP (see Figure 4).

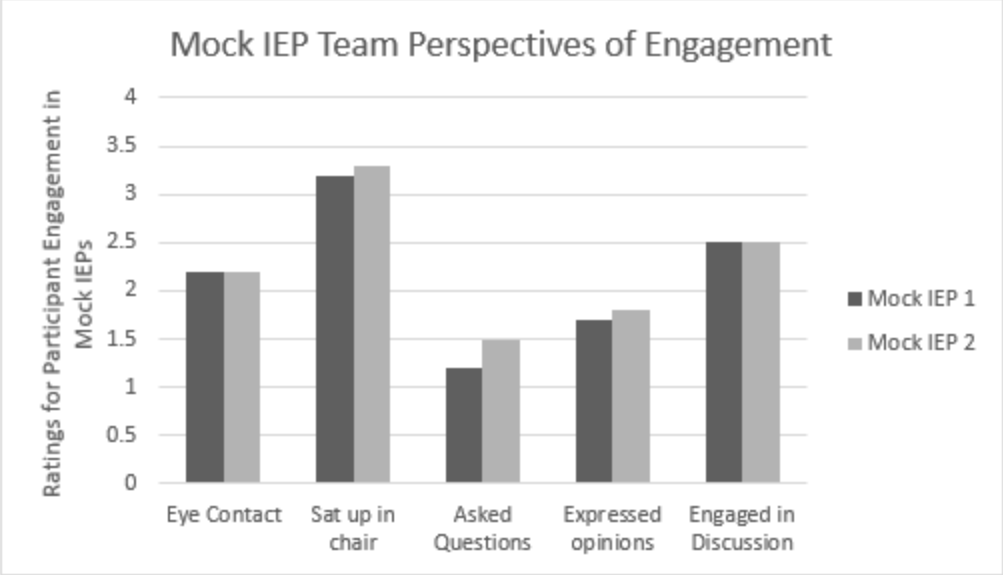

Figure 4: Mock IEP team members rating on student engagement in Mock IEPs

An additional social validity measure was conducted to evaluate student engagement in the pre-and post-mock IEPs by observers who did not attend the mock IEPs. Teacher candidates in a master-level special education course at the local university were asked to watch the video recordings of the pre- and post-mock IEPs for Mary and Alexander. The teacher candidates rated participants on their level eye contact with a

mean score of 2.0 (range 1-4) during the pre-mock IEP and mean score of 3.0 (range 2-4) during the post-mock IEP. Mock IEP team members rated participants on their level of sitting up in the chair with a mean score of 3.8 (range 2-4) during the pre-mock IEP and mean score of 3.6 (range 3-4) during the post-mock IEP. Mock IEP team members rated participants on their level of asking questions with a mean score of 0.0 (range 0-0) during the pre-mock IEP and mean score of 0.7 (range 0-2) during the post-mock IEP. Mock IEP team members rated participants on their level of expressing opinions/feelings with a mean score of 1.9 (range 0-3) during the pre-mock IEP and mean score of 3.5 (range 2-4) during the post-mock IEP. Mock IEP team members rated participants on their level of engagement in discussion with a mean score of 2.6 (range 1-4) during the pre-mock IEP and mean score of 3.6 (range 2-4) during the post-mock IEP (see Figure 5).

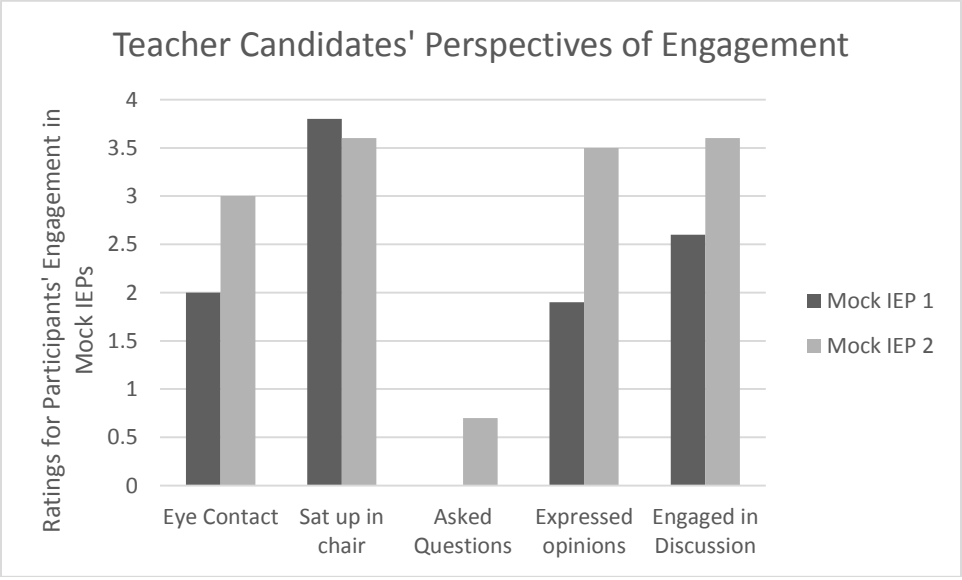

Figure 5: Teacher candidates' perspectives of participant engagement in mock IEPs

Research Question 4: What do students, teachers, and team members think of student's use of the self-monitoring checklist as a component of the *Self-Directed IEP*?

To determine social validity in terms of effectiveness and usefulness of the self-monitoring checklist as a component of the *Self-Directed IEP*, all participants and mock IEP team members were asked to complete a questionnaire. Students and teachers were asked about the procedures of the intervention and the impact of the self-monitoring checklist on learning the steps of the IEP (see Table 1).

Table 1: Social validity – Student survey

Question	Yes	Maybe	No
1. I feel ready to lead my IEP meeting	4	0	0
2. I know what I am supposed to do at the IEP meeting	3	1	0
3. The Self-Directed IEP and checklist helped me be ready for my IEP meeting	2	1	1
4. The checklist helped me know what to do in my IEP meeting	3	1	0
5. I liked learning what to do at my IEP meeting	4	0	0

Participants' perceptions. After the post-mock IEP meeting (i.e., generalization) and maintenance probe were completed, participants were asked to indicate their level of agreement with statements on a questionnaire by circling a yellow *Emoticon* with corresponding word (a) happy face - yes, (b) neutral face - maybe, or (c) sad face - no.

participants read the statements or a teacher read the statements to them. Table 1 provides the results of the student questionnaire. All four participants felt ready to lead their IEP meeting and liked learning what to do at their IEP meeting.

Teachers' perceptions. After the post-mock IEP meeting (i.e., generalization) was completed, the special education teachers were asked to indicate their level of agreement with statements on a questionnaire by circling (a) Agree, (b) Not Sure, or (c) Disagree. Table 2 provides the results of the teacher questionnaire. Both special education teachers and the job coach recorded that (a) participants lead their mock IEP and knew what to do at their IEP meetings, (b) the *Self-Directed IEP* with picture prompts aided students in learning their IEP and appeared easy to use, and (c) they would use the *Self-Directed IEP* with picture prompts in their classroom.

Table 2: Social validity – Special education teacher survey

Questions	Agree	Not Sure	Disagree
1. Students lead their mock IEP meetings	3	0	0
2. Students know what to do at their mock IEP meetings	3	0	0
3. The addition of the Self-Monitoring Checklist with picture prompts assisted students in learning how to lead their own IEP	3	0	0
4.The *Self-Directed IEP* with Self-Monitoring Checklist appeared easy to use	3	0	0
5. I would use the *Self-Directed IEP* with Self-Monitoring Checklist in my classroom	3	0	0

CHAPTER 5: DISCUSSION

This chapter provides an overview of the previous chapters including the purpose of the study and methodology used for the study. Findings are presented, as well as limitations, implications for practice, and recommendations for future research.

The purpose of this study was to examine the effectiveness of a self-monitoring checklist with picture prompts, as a component of the *Self-Directed IEP* for students with intellectual and multiple disabilities. In Phase One, two middle school and two high school students with intellectual and multiple disabilities were taught the steps of their IEP using the *Self-Directed* IEP curriculum. If participants did not master the steps of their IEP in Phase One, they moved into Phase Two in which they were given the Student IEP Checklist with picture prompts to use during probes. No additional training was given in Phase Two. If participants did not master the steps of their IEP in Phase Two, additional booster training was provided on the incorrect steps along with the Student IEP Checklist with picture prompts for probes. Using a multiple baseline across participants design, the primary dependent variable, participants' knowledge of the steps their IEP meeting, was determined by the number of correct responses during probes.

A second dependent variable measured the amount of time each team member talked during pre-and post-mock IEP meetings. Social validity was examined by several measures. First, mock IEP team members scored participants on level of engagement in the pre- and post-mock IEP meetings. Next, masters-level special education teacher

candidates watched videos of two of the participants' mock IEP meetings and scored their level of engagement during both pre-and post-mock IEP meetings. Finally, students and teachers completed Likert-type questionnaires on the effectiveness and usefulness of the Student IEP Checklist as a component of the *Self-Directed IEP* and their perspectives on the intervention.

What are the effects of the modified *Self-Directed IEP* curriculum with and without the self-monitoring checklist during probes?

Results of this study indicated a functional relation between the self-monitoring checklist and knowledge of steps of the IEP. Three of the four participants (i.e., Alexander, T'Lik, Ray) did not reach mastery of 24 out of 30 correct responses to probes on the steps of the IEP until presented with the Student IEP Checklist with picture prompts. Mary reached mastery criteria before the Student IEP Checklist was introduced. For Alexander, T'Lik, and Ray, the addition of a self-monitoring checklist provided a system for observing and recording their responses to the probes (Browder & Shapiro, 1985; Cooper et al., 2007), then to evaluate their progress (Agran et al., 2005). Self-monitoring, in this way, fosters development of self-determination through the process of self-regulation. These findings are consistent with previous studies on self-monitoring as a strategy to teach transition-related skills (Agran et al., 2008), and to promote inclusion in general education settings (Agran et al., 2008; Hughes et al., 2002). This study adds to the literature on combining self-monitoring with picture prompts (Agran et al., 2010; Copeland & Hughes, 2000; Hughes et al., 2002; McGlashing-Johnson et al., 2003; Steed & Lutzker, 1997; Wacker & Berg, 1983) to promote self-directed learning for students with intellectual disabilities.

The results of this study also are consistent with previous studies using the *Self-Directed IEP* curriculum to demonstrate the effects of teaching students with disabilities how to participate in their IEP meetings (Allen et al., 2001; Arndt et al., 2002; Kelley et al., 2011; Martin, Van Dycke, Christensen et al., 2006; Seong, Wehmeyer, Palmer, & Little, 2014; Snyder, 2002; Uphold, 2008). It builds on the empirical research supporting the *Self-Directed IEP* curriculum as an evidence-based practice (Martin, Van Dycke, Christensen, 2006; Test, Fowler et al., 2009) and is one more demonstration that using published curricula to teach students about the IEP process has positive effects on students' participation in their IEP meetings (Test et al., 2004).

The current study is the first to conduct a component analysis of the self-monitoring checklist as a component of the *Self-Directed IEP* curriculum for students with intellectual and multiple disabilities. Test et al. (2004) recommended the need for component analyses of commonly used techniques within IEP participation training to determine their efficacy. The importance of conducting an analysis of the components of evidence-based interventions is to identify which elements in an intervention are integral to changing behavior for certain students (Kennedy, 2005). Cook, Tankersley, and Harjusola-Webb (2008) noted that not all evidence-based practices work seamlessly for all students and the necessity to consider the particular students' strengths and needs before implementing an evidence-based practice. By evaluating an intervention with and without specific components (Ward-Horner & Sturmey, 2010), researchers can adapt the practice and demonstrate for educators who to use the practice for certain students. In this way, the component analysis provides a link between the intervention in research and implementation in the classroom by identifying which components of an intervention are

crucial for certain students with disabilities so educators can differentiate the practice across the classroom reaching more students and implementing strategies with fidelity.

According to the Teacher's Manual for the *Self-Directed IEP* curriculum, a Role-Play Checklist is provided to students in Lesson 11 as a self-monitoring checklist to use as they review what was learned in a role play setting. Most of the studies which examined the *Self-Directed IEP* used the Role-Play Checklist either as prescribed for lesson 11 (Martin, Van Dycke, Christensen et al., 2006; Snyder, 2002; Snyder & Shapiro, 1997), or was made it available as an aide during all role-play probes (Uphold, 2008) and planning meetings (Kelley et al., 2011). This study was similar to Uphold (2008), who provided picture prompts along with the self-monitoring checklist which were presented during baseline and role-play probes during intervention, where the students was instructed to mark a box on the checklist when they responded correctly. However, it is different in that in order to conduct a component analysis, the checklist was only introduced to probes in Phase Two of the intervention.

For this study, the component analysis was determined by comparing probes in which the Student IEP Checklist was not provided (i.e., baseline, Phase One) with probes in which the participants were given the opportunity to use the Student IEP Checklist (i.e., Phase Two Phase Three). For example, Phase One intervention sessions included instruction on how to use the Student IEP Checklist along with instruction on each step of the IEP. However, during Phase One probes, which were conducted before each training session, participants were not provided with the checklist. Since instruction on use of the Student IEP Checklist was not conducted until intervention started, baseline probes were also conducted without the Student IEP Checklist. The Student IEP Checklist was then

provided for probes during Phase Two to compare participants' number of correct responses with and without the checklist. Two of the participants (i.e., T'Lik, Ray) had an immediate change in level and reached mastery criteria using the Student IEP Checklist in Phase Two. Alexander needed the Student IEP Checklist and four (4) booster sessions in Phase Three to meet criteria, although his non-speaking behavior may have been a factor. Mary met criteria in Phase One without the checklist.

In addition to Phase Two and Three probes, similar to Kelley et al. (2011), participants were given the Student IEP Checklist as a reference for both mock IEP meetings. While none of the participants looked at the checklist during mock IEP-1, all four participants utilized the checklist during Mock IEP-2. In fact, even though Mary reached mastery without having to use the Student IEP Checklist, she referred to it during her mock IEP-2.

Where earlier studies held role-play sessions as probes directly after each intervention session (Uphold et al., 2008; Kelley et al., 2011), this study conducted probes on the knowledge of the steps of the IEP the following day, before the next intervention session began. The time between instruction and probes insured that responses during probes represented learned knowledge, not just rehearsed and practiced responses from the instructional session immediately prior to the probes. Another indication that learning was taking place in this study was that probes were often conducted several days after the intervention sessions or longer, such as with weekends and holiday breaks. For example, Mary had retained most of her previous learning after a 10 day interruption for the End of Course assessments and winter break.

What are the effects of students' use of the self-monitoring checklist on team members' participation during mock IEPs before intervention and after intervention is completed?

Mock IEPs were held before baseline started and after each participant met mastery criteria, with students and special education teachers talking the most during both mock IEP meetings. The students talked 34% of the time during mock IEP-1meetings and increased to 35% during mock IEP2. The special education teachers talked 27% of the time during mock IEP-1meetings and increased to 29% during the second mock IEP-2. The regular education teacher and Job Coach did not talk during mock IEP-1or mock IEP-2 meetings. Others talked 5% of the time during the first mock IEP meetings and increased to 14% during the second mock IEPs. The percentage of intervals in which no one talked were 32% during mock IEP-1 and decreased to 21% during mock IEP-2. Multiple speakers talked 1% of the time during mock IEP-1 and not at all during mock IEP-2 meetings.

The results of this study are different from previous studies which measured the amount of time members of the IEP team talked during IEP meetings (Martin, Van Dyke, Christensen et al., 2006; Martin, Van Dyke, Greene et al., 2006; Uphold, 2008) in two ways. First, in the current study, students talked in 34% of the intervals before the intervention and 35% after the intervention. This is different from Martin, Van Dycke, Christensen et al. (2006) who found students talked only 3% during IEPs before intervention, which increased to 12.8% after intervention as well as Uphold (2008), whose students talked 7.2% during baseline IEPs and increased to 14.3% in the IEP after intervention. The high rate of student talking in the current study may have been due to the format of the mock IEPs in which the special education teacher asked the same probe

questions from the Probe Script as were asked during the other phases of the intervention, while Martin, Van Dycke, Christensen et al. and Uphold conducted real IEPs.

Last, in the current study, the percentage of time no one was talking during the mock IEPs decreased from 32% for mock IEP-1 to 21% for mock IEP-2. This is different form Martin Van Dycke, Christensen et al., 2006; Martin, Van Dycke Greene et al., 2006), who found the time no was talking during IEP meetings to be below 3%. In this study, participants often delayed answering and performed avoidance behaviors such as swinging back in the chair or covering their face with their hands during mock IEP-1. During mock IEP-2, the participants overall appeared more confident and answered probe questions with less delay.

Discussion of Social Validity Data

What are the effects of students' use of the self-monitoring checklist on team members' perception of student's level of participation before intervention and after intervention?

This study examined participants' level of engagement based on eye contact, posture, frequency of asking questions, expressing opinions, and engaging in discussion from the perspectives of two groups of observers, (a) mock IEP team members, and (b) masters-level special education teacher candidates. Both groups scored an increase in asking questions, and expressing opinions/feelings from mock IEP-1 to mock IEP-2, indicating possible increased self-advocacy and taking ownership of the mock IEP meeting.

This is the first study to examine student engagement during mock IEP meetings, although Kelley et al. (2011) taught the importance of eye contact along with tone of voice when showing respect (i.e., Lesson 7: Deal with Differences in Opinions). Martin

and William-Diehl (2013) reviewed literature on student engagement in the transition process as it has developed across time. On a large scale, engagement is determined by a students' level of involvement and taking ownership in the transition process including, transition assessments, transition planning, and goal attainment. The current study provided a more specific perspective of engagement in terms of body language (e.g., eye contact, sitting up in the chair) as well as students' level of input into the conversation (e.g., asking questions, expressing opinions, participating in discussion).

For example, mock IEP team members observed an increase in participants' posture, level of asking questions, and expressing opinions during mock IEP-2 over mock IEP-1, indicating higher engagement for mock IEP-2. When students are engaged on this level in the IEP meetings, the dynamics of the meeting are likely to change. The student, instead of being an outsider to the decisions being made about his life, is now an integral part of the conversation and decision making. Martin et al., (2004) revealed the benefits of student presence at IEP meetings and the positive effect it had on the other IEP team members, such as feeling more open to join in conversation and having a more clear understanding of their role in the process.

In the current study, differences in how each group perceived the participants' level of engagement can be seen when examining Figure 4 and Figure 5. These differences in perspectives may have been based on several factors, including subjectivity on the part of the mock IEP team. The teachers and job coach were more familiar with participants and may have wanted to provide them with positive scores on the engagement measure. For example, the job coach gave Mary a score of four (4) for asking questions during mock IEP-1, although she only asked one question. Another

possible reason for the differences across groups, may have been the results of instructions provided for completing the engagement survey. For example, the characteristics of engagement being measured were operationally defined for the teacher candidates before viewing the recordings of the mock IEPs, whereas, the teachers and job coach were not provided the same operational definition. The third possible reason for the difference across groups may be the way the participants were accessed. The teachers and job coach were sitting at the table with the participants, which would make eye contact easier to discern. From the viewpoint of the camera, determining eye contact from the video would be less accurate. These difference in procedure may be a limitation to this social validity measure.

What do students, teachers, and team members think of student's use of the self-monitoring checklist as a component of the *Self-Directed IEP*?

After all phases of the intervention were completed, special education teachers and students were asked to complete questionnaires on the procedures and outcomes of the intervention. All four students responded that the intervention helped them feel ready to lead their IEP meeting and they liked learning what to do at their IEP meetings. Three students responded that they knew what to do at their IEP meetings and that the Student IEP Checklist helped them know what to do. One student did not think the *Self-Directed IEP* and checklist helped them be ready for the IEP meeting. The teacher did not sit with the participant to complete the questionnaire, hence they may have not understood the question.

Special education teachers and the job coach agreed with all five questions on the social validity measure (a) students led the mock IEP meeting, (b) students knew what to

do at their mock IEP meeting, (c) the Student IEP Checklist with picture prompts helped students learn to lead their IEP meetings, and (d) the *Self-Directed IEP* with Student IEP Checklist appeared easy to use. Both special education teachers responded that they would use the *Self-Directed IEP* with Student IEP Checklist in their classroom. The middle school special education teacher asked the experimenter to provide training for the *Self-Directed IEP* so she could teach it to the rest of her students.

The results of this study on social validity are similar to previous studies in which participants felt the procedures of the *Self-Directed IEP* curriculum were highly acceptable (Arndt et al., 2006; Snyder 2002; Snyder & Shapiro, 1997; Uphold, 2008) and helped them learn what to do at their IEP meetings (Kelley et al., 2011). This study adds to the literature on the social validity of the procedures and outcomes of the *Self-Directed IEP* (Arndt et al., 2006; Kelley et al., 2011; Snyder 2002; Snyder & Shapiro, 1997; Uphold, 2008), by extending the research base by presenting the effectiveness and usefulness of providing students with a self-monitoring checklist picture prompts as a component of the *Self-Directed* IEP curriculum to aide in learning process.

Limitations

There are several limitations to the findings of this study. First, this study did not strictly adhere to the guidelines for multiple probe designs, as established in the What Works Clearinghouse (WWC) Procedures and Standards Handbook (Version 3.0), and the Institute of Education Sciences (IES). In the WWC handbook, criteria for multiple probe designs to *Meets WWC Pilot Single-Case Design Standards without Reservations* requires a cluster of three consecutive data points immediately prior to introducing the independent variable. This study, however did *Meet WWC Pilot Single-Case Design*

Standards with Reservations with one data point immediately prior to introduction of the independent variable. According to Horner and Baer (1987) the multiple probe design is useful when "measurement for extended baselines (1) may prove reactive, (2) is impractical, and/or (3) a strong *a priori* assumption of stability can be made" (p.193). This study used a multiple probe design (Horner & Baer, 1987) to control for baseline fatigue and possible participant mortality due to the lengthy probe process (i.e., 11 questions with 30 anticipated correct responses). Each of the participants had a steady trend during baseline, which predicted the measurement would not change until the independent variable was introduced (Cooper et al., 2007). The single probe before the phase change was verification of this prediction. In the field, researchers must find a balance of strictly following the prescribed standards with the need to keep participants interested and willing to stay in the study.

Second, this component analysis of the Student IEP Checklist and picture prompts as a component of the *Self-Directed IEP* is limited in that only three of the four participants needed the assessed component to reach mastery of the intervention. It further demonstrates the need to differentiate instruction across students and to adapt evidence-based practices to be accessible for all students with disabilities. For example, Mary did not need the Student IEP Checklist to reach mastery criteria. Her age (i.e., 18 years old), IQ (i.e., 60), and organizational skills (i.e., noted employment skill from Lesson 4) may have played a part in her ability to learn and retain the information taught through the intervention without adding the self-monitoring checklist. She may have had previous opportunities to explore postsecondary goals, or because of her age, the thought of participating in postsecondary activities may have been more realistic. The

significance of this finding is that, although students in the classroom may have the same disability category, it is important to access each students' strength and needs, as well as opportunities to learn, to determine if and what accommodation and modifications will be needed for each individual. For example, in the current study three participants had mild intellectual disability according to their IEP records, although they had differences in the severity of their disability (i.e., Alexander IQ=41, Mary IQ=60, Ray IQ=51). Alexander was in a regular education setting for 39% of his day, while Mary and Ray were in the regular education setting for 80% of the day. With these differences in IQ and school-wide opportunities, it would be imperative to modify interventions for Alexander more than Mary.

Third, this study had limitations because not all of the typical IEP team members were present for the mock IEP meetings, although the parents and LEA were invited. Where this may limit generalization to real IEP meeting, the preparation for learning each step of the IEP process provided students with the knowledge of the steps to the IEP and gave them an opportunity to assess their strengths and limits and focus ahead to options they have for after high school. Had all of the typical IEP members been present at the mock IEP meetings, participants would have had more opportunity to express and expand on their postsecondary goals, interests, and need for support. There would have most likely been a more in-depth discussion, including questions and answers.

Fourth, the results of the social validity measures may have been limited due to the lack of the full IEP meeting format during mock IEPs. For example (a) present level of performance, (b) annual goals and benchmarks, and (c) accommodations and modification were not included in the mock IEP. The structure of the mock IEPs

comprised mainly of the special education teacher asking questions and the students answering (Allen et al., 2001), without in-depth discussion about transition activities or other components of the IEP. Actual annual reviews (i.e., IEP meetings) were scheduled for three of the participants during the month following the completion of the intervention. The special education teacher planned to have the participants lead as many of the steps as they felt comfortable. Although the students had not practiced in a "real" IEP, they learned about self-advocacy and how to speak up at the meeting and tell the other IEP team members about their goals and plans for the future. This would be the first IEP meeting that any of the students had ever attended.

Finally, this study had limitations to the findings on the amount of time the mock IEP team members talked due to the number of persons attending the mock IEP. Where other simulated and real IEPs (Allen et al., 2001; Arndt et al., 2006, Martin, Van Dyke, Christensen et al., 2006; Martin, Van Dyke, Greene et al., 2006; Snyder, 2002; Snyder & Shapiro, 1997; Uphold, 2008) or planning meetings (Kelley et al., 2011) had the appropriate IEP team members, this study had only the special education teacher, student, and experimenter (i.e., middle school), or special education teacher, student, regular education teacher or job coach, and the experimenter present. Parents and the Local Education Agency representative were invited to the mock IEPs, but were unable to be there.

In addition to who was in attendance at the mock IEP meetings, a limitation also exists due to the measure used to calculate time talked. In this study, 10 s time sampling was used, in which the video of each mock IEP was stopped at the 10 second mark and the experimenter and second observer wrote down who was talking at that time. This

measurement practice was used to replicate previous studies measuring time talked during the *Self-Directed IEP* (Martin, Van Dycke, Christensen et al. 2006; Martin, Van Dycke, Greene et al., 2006; Uphold, 2008). Perhaps a better method might have been to measure frequency of who talked, marking a tally sheet each time a person started talking during the mock IEP. This would have provided more information, although with a full IEP meeting that lasts typically 30-60 minutes, it would have been time consuming and less practical.

Future Research

Based on the results of this study, a number of suggestions for future research can be made. First, a recommendation for future research is to examine the use a modified version of the *Self-Directed IEP* (Martin et al., 1996) in the general education classroom with students with and without disabilities. As more students with disabilities are included in the general education classroom, opportunities to extend transition planning activities to students without disabilities could include increased self-determination and preparedness for the future for all students. Many of the skills taught in the program are valuable to all students, regardless of disabilities, including (a) Step 3: Reviewing Past Goals, (b) Step 4: Ask for Others' Feedback, (c) Step 5: State your School and Transition Goals, (d) Step 6: Ask Questions of You Don't Understand, (e) Step 7: Deal With Differences in Opinion, (f) Step 8: State Supports that You'll Need, and (g) Step 9: Summarize Your Goals. Future research could measure self-determination skills or construction of transition plans for postsecondary education, employment, and being more independent. A naturalistic generalization measure would be the application of skills learned in mock or real job interviews.

A second recommendation for future research is to investigate the effects of a tiered approach to professional development (Kretlow & Bartholomew, 2010) on transition planning programs for teachers with transition-age students in their classroom. Although teaching self-determination skills and transition planning practices are effective in increasing post-school outcomes (Test, Fowler et al., 2009; Test, Mazzotti et al., 2009; Wehmeyer & Palmer, 2003; Wehmeyer, & Schwartz, 1997), many special educators are not using these strategies and practices in the classroom. Teachers may not be sure how to teach transition skills (Li et al., 2009), self-determination (Grigal et al., 2003), and evidence-based practices (Jones, 2009; Pham, 2013), or how to incorporate these concepts into IEP meetings (Konrad, 2008). Fidelity of teacher implementation, as well as student outcomes could be assessed.

Students with cultural and linguist diversity (CLD) can learn to participate in their IEP meetings (Griffin, 2011) and learn self-determination skills (Shogren, 2011). The majority of studies using the *Self-Directed IEP* curriculum identified the cultural or ethnic background of their participants, although findings were not specifically revealed as to differences between the ethnic groups. For example, Allen et al. (2001) had (0%) of CLD participants, Arndt et al. (2006) had (40%), Kelley et al. (2011) had (33.3%), Martin, Van Dycke, Christensen et al. (2006) had (15.7%), Snyder (2002) had (33.3%), and Uphold (2008) had (50%) of CLD participants. Martin, Van Dycke, Christensen et al. (2006) suggests examining the effects of IEP participation on CLD students, taking consideration for cultural beliefs and adapting self-determination instruction to meet individual as well as family/cultural needs (Shogren, Kennedy, Dowsett, Villarreal, & Little, 2014; Valenzuela & Martin, 2005). Future research should focus not only of

preparing CLD students to participate in their IEP meeting, but should investigate parental perceptions of their CLD students' participation in transition planning and self-determination activities.

Last, a recommendation for future research is to examine the *Self-Directed IEP* curriculum with students with autism spectrum disorders (ASD). While three previous studies identified participants with autism (Arndt et al., 2006), Asperger's (Martin, Van Dycke, Christensen et al., 2006), and pervasive developmental disorder (Kelley et al., 2011). There is a lack of research on teaching participants with ASD how to participate in their IEP using the *Self-Directed IEP* curriculum. Lee and Carter (2012), recommended preparing students with high-functioning autism to take ownership of their IEP and transition planning as an avenue to increased opportunities for meaningful work after high school, while Roberts (2010) noted students with ASD may need instruction to learn self-advocacy skills. Future research should investigate the effects of the *Self-Directed IEP* curriculum on level of self-determination and self-advocacy through participation in the IEP meeting for students with ASD.

Implications for Practice

The results of this study (i.e., component analysis of the *Self-Directed IEP* with Student IEP Checklist and picture prompts) lead to several implications for practitioners. The first implication for practitioners it to be prepared to adapt evidence-based transition planning programs and practices for students' varying strengths and needs. While some students will learn the skills as presented in the program, others may need extra scaffolding such as using a self-monitoring checklist with picture prompts, as done in this study, a computer-assisted program (Kelley et al., 2011), or picture prompts on a

PowerPoint presentation (Uphold, 2008) to successfully learn new skills. Preplanning how to differentiate instruction to maximize student learning is common in the academic world and is equally as important for transition planning.

Some students with intellectual disabilities, may not be able to retain what they learn over a large break in time between learning and application of a new skill, for example, Alexander went with his family to Disney World after the first probe in Phase Two. Although he had scored 16 correct responses on his first probe with the Student IEP Checklist, when he returned, he did not remember what was learned in the previous lesson and his correct responses dropped to one (1), then to zero (0). A second implication for practitioners is to be mindful of extent of time that elapses between initial instruction on IEP participation and day of the actual IEP meeting, and to provide students with an opportunity to practice shortly before the IEP meeting.

Next, Rusch, Hughes, Agran, Martin, and Johnson (2009) detailed the importance of teaching middle school students to become self-directed and active in their future by participating in transition activities. Although Allen et al. (2001) and Uphold (2008) recommended teaching students how to lead their IEP meetings before age 14, only one prior study (Martin, Van Dycke, Christensen et al., 2006) examined the effects of teaching the *Self-Directed IEP* to middle school students. Because of the connection between self-determination and the skills needed to lead an IEP meeting, Stang, Carter, Lane, and Pierson (2008) recommend introducing these skills to elementary and middle school students. Two of the participants in the current study were middle school students with intellectual disabilities and multiple disabilities. As was demonstrated in the baseline probes and phase one of the interventions probes, Alexander and T'Lik had very little

comprehension of what transition goals were or what they wanted to do after high school in the areas of education, employment, or independent living. However, through discussion of how to determine goals using interests, skills, and limitations, both middle school students were able to consider what they might like to do after high school for education (i.e., "learn more about computers," "read more books"), employment (i.e., "work with animals," "build houses with my dad"), and independent living ("sing," play soccer"). Before intervention, T'Lik responded with "play soccer" for all three transition domains. An implication for practitioners is to consider that young students, including students with disabilities have preferences and interests for what they would like to be when they grow up. Educators should providing opportunities for these students to explore their educational and vocational dreams at an early age, especially once they are in middle school so they can have a voice in their IEP and transition process.

This study used interviews and scripted lessons to help students identify postsecondary goals as part of the *Self-Directed IEP* curriculum. While this was fitting for the intervention, a third implication for practitioners is to begin early to conduct formal and informal transition assessments, whether published or teacher-made, to help students understand their preferences, interests, needs, and strengths and to align them to postsecondary goals (Mazzotti et al., 2009). Teachers can find resources online such as the *Age Appropriate Transition Assessments Toolkit* 3rd edition (NSTTAC, 2013) help students learn more about themselves to broaden their scope of options and opportunities for their future.

Fourth, the *Self-Directed IEP* has been identified as an evidence-based practice and noted for its effectiveness of as an instructional tool to teach self-determination skills

(Martin, Van Dycke, Christensen et al., 2006; Test et al., 2004; Seong et al., 2014). An implication for practitioners is to conduct self-determination assessments with their students prior to of the *Self-Directed IEP* or other evidence-based transition planning program and then to repeat the measure each year. As teachers discuss the importance of self-determination with students and provide opportunities to practice these skills, there will be ongoing documentation of growth in this area. At the annual IEP meeting, teachers can use this information to encourage and motivate students as well as to open the conversation with parents and to discuss their views of self-determination for their child.

Summary

The purpose of this study was to evaluate the effects of the self-monitoring checklist with picture prompts as a component of the *Self-Directed IEP* for students with intellectual and multiple disabilities. Results found all four students learned the steps of their IEP, while three of the participants did not meet mastery until the Student IEP Checklist was introduced in Phase Two, demonstrating the efficacy of the Student IEP Checklist as a necessary component of the *Self-Directed IEP* for those students.

This study also added to the research on the efficacy of the *Self-Directed IEP* as an effective practice for teaching students steps to increase participation in their IEP, mock or real (Allen et al., 2001; Arndt et al., 2006; Kelley et al., 2011; Martin, Van Dycke, Christensen et al., 2006, Seong et al., 2014; Snyder, 2002; Snyder & Shapiro, 1997; Uphold, 2008). All four students learned the steps of their IEP and applied what they learned in mock IEPs with an average score of 27 out of 30 correct responses.

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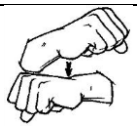
APPENDIX A: MODIFIED *SELF-DIRECTED IEP*

Lessons	Steps of *Self-Directed IEP*	Modifications
Lesson 1	*Step 1: Begin meeting by stating a purpose*	Students will not use student workbook. Students will practice the purpose orally with the experimenter. Students (or experimenter) will write purpose on Student IEP Checklist
Lesson 2	*Step 2: Introduce everyone*	Students will practice the purpose orally with the experimenter. Students or experimenter will write names and roles on Student IEP checklist.
Lesson 3	*Step 3: Review past goals and performance*	Students will not use workbook. Students will practice goals and performance orally with the experimenter. Students (or experimenter) will write goals on Student IEP Checklist.
	Step 4: Ask for others' feedback	Students will not use workbook. Students will practice asking for feedback orally with experimenter.
Lesson 4	*Step 5: State your school and transition goals*	Students will not use workbook. Students will practice interests, skills, and limits orally with experimenter. Student (or experimenter) will write cues on Student IEP Checklist.
Lesson 5	*Step 6: Ask questions if you don't understand*	Students will not use workbook. Students will discuss asking questions with experimenter.
N/A	*Step 7: Deal with differences in opinion*	This step will not be included in study.
Lesson 6	*Step 8: State the support you'll need*	Students will not use workbook. Students will practice needed supports orally with the experimenter. Students (or experimenter) will write supports on Student IEP Checklist.
Lesson 7	*Step 9: Summarize your goals*	Students will not use workbook. Students will practice summarizing goals orally with the experimenter. Students (or experimenter) will write needed supports on Student IEP Checklist.
	Step 10: Close meeting by thanking everyone	Students will practice saying thank you with experimenter.
N/A	*Step 11: Work on IEP goals all year*	This step will not be included in study.

APPENDIX B: STUDENT IEP CHECKLIST

Student Name: _____ Date: _____			
Lessons			Available points
Lesson 1	*Begin meeting by stating a purpose*		1. _____ 2. _____ 3. _____
Lesson 2	*Introduce everyone*		1. _____ 4. _____ 2. _____ 5. _____ 3. _____
Lesson 3	*Review past goals and performance*		1. _____ 2. _____ 3. _____
	Ask for others' feedback		1. _____

APPENDIX B: STUDENT IEP CHECKLIST (Continued)

<table>
<tr><td rowspan="3">Lesson 4</td><td rowspan="3">State your school and transition goals</td><td> 
Education</td><td>1. Interests_____
2. Skills_____
3. Limits_____</td></tr>
<tr><td> 
Work</td><td>1. Interests_____
2. Skills_____
3. Limits_____</td></tr>
<tr><td> 
Independent Living</td><td>1. Interests_____
2. Skills_____
3. Limits_____</td></tr>
<tr><td>Lesson 5</td><td>Ask questions if you don’t understand</td><td> 
Ask questions</td><td>1. _____</td></tr>
<tr><td>Lesson 6</td><td>State the support you’ll need</td><td> 
Supports</td><td>1. _____
2. _____
3. _____</td></tr>
</table>

APPENDIX B: STUDENT IEP CHECKLIST (Continued)

Lesson 7	*Summarize your goals*		1. _____ 2. _____ 3. _____ 4. _____
	Close meeting by thanking everyone		1. _____

APPENDIX C: *SELF-DIRECTED IEP* PROBE SCRIPT

Lessons	Steps	Probe Script
1	*Begin meeting by stating the purpose*	1. What is the purpose of your IEP meeting?
2	*Introduce everyone*	2. Who is on your IEP team and what do they do on your IEP team?
3	*Review past goals and performance*	3. What are three goals you were working on and how you are doing on them?
	Ask others for feedback	4. How do you find out others think you are doing on your goals?
4	*State your school and transition goals*	5. For education - What do you want to do? What are you good at? What is hard for you? 6. For work - What do you want to do? What are you good at? What is hard for you? 7. For independent living - What do you want to do? What are you good at? What is hard for you?
5	*Ask questions*	8. What do you do if you don't understand something?
6	*What supports do you need for your goals?*	9. What kinds of help do you need to meet your goals?
7	*Summarize your goals* *Close the IEP meeting*	10. Can you tell us about the goals you want to meet? 11. What do you say when you are ending your IEP meeting?

APPENDIX D: STEPS OF IEP DATA COLLECTION SHEET

Student Name: _____		Date of Session									
Objective											
Lesson 1	*Begin meeting by stating a purpose (student states purpose of meeting)*										
	Review past goals										
	State progress										
	Set new goals										
Lesson 2	*Introduce everyone (student introduces each IEP team member by name and role)*										
	LEA										
	Parent										
	Special Education										
	Regular Education										
	Myself										
Lesson 3	*Review past goals and performance (student states 3 past goals and gives 3 description of progress for each goal)*										
	Goal 1										
	Goal 2										
	Goal 3										
	Ask for others' feedback (student asks for feedback)										
	Ask for feedback										

APPENDIX D: STEPS OF IEP DATA COLLECTION SHEET (Continued)

Lesson 4	*State your school and transition goals (a) student states interests, skills, and limits)*										
	Education Interests										
	Education Skills										
	Education Limits										
	Employment Interests										
	Employment Skills										
	Employment Limits										
	Independent Living Interests										
	Independent Living Skills										
	Independent Living Limits										
Lesson 5	*Ask questions if you don't understand (student asks questions)*										
	Ask questions										
Lesson 6	*State the support you'll need (student states at least 1 support needed to reach each goal)*										
	Support for Education goal										
	Support for Employment goal										
	Support for Independent Living goal										
	Summarize your goals (student restates each school and transition goal and the supports needed)										
Lesson 7	Summarize school goal										
	Summarize Education goal										
	Summarize Employment goal										
	Summarize independent Living goal										
	Close meeting by thanking everyone (student says thank you)										
	Thank you										
	Total # Correct Responses										
	Total # Possible Responses	30	30	30	30	30	30	30	30	30	30

APPENDIX E: DEFINITIONS FOR CORRECT AND INCORRECT RESPONSES

	Steps	Correct response	Incorrect response
Lesson 1	*Begin meeting by stating a purpose*	➢ Response includes statement about past goals (e.g., we will talk about what I have been doing) ➢ Does not need to be complete sentence	➢ No Response ➢ Nothing mentioned about past goals
		➢ Response includes statement about progress of goals (e.g., We will talk about how I am doing) ➢ Does not need to say word progress ➢ Does not need to be complete sentence	➢ No response ➢ Nothing mentioned about progress on goals
		➢ Response includes statement about planning new goals ((e.g., what I will work on next) ➢ Does not need to be complete sentence	➢ No response ➢ Nothing mentioned about new goals
Lesson 2	*Introduce everyone*	➢ Response includes name and role of LEA ➢ Response includes name and role of parent	➢ No response ➢ States only name ➢ States only role ➢ No response ➢ States only title ➢ States only role
		➢ Response includes name and role of special education teacher	➢ No response ➢ States only name ➢ States only role
		➢ Response includes name and role of general education teacher	➢ No response ➢ States only name ➢ States only role
		➢ Response includes student (e.g., this meeting is about me)	➢ No response

APPENDIX E: DEFINITIONS FOR CORRECT AND INCORRECT RESPONSES
(Continued)

Lesson 3	*Review past goals and performance*	➢ States goal and action on goal #1	➢ Nothing mentioned about goals or progress ➢ No response for goal #1 ➢ States only goal #1 ➢ States only action for goal #1
		➢ States goal and action on goal #2	➢ No response for goal #2 ➢ States only goal #2 ➢ States only action for goal #2
		➢ States goal and action on goal #3	➢ No response for Goal #3 ➢ States only goal #3 ➢ States only action for goal #3
	Section 2: Ask for others' feedback	➢ Requests feedback from others (e.g., how do you think I am doing) ➢ Does not need to use word feedback	➢ No response ➢ Nothing mentioned about feedback
Lesson 4	*State your school and transition goals* *Section 1:Education - interests, skills, limits*	➢ States education interest	➢ No Response ➢ Response is not an interest
		➢ States education skill	➢ No Response ➢ Response is not a skill
		➢ States education limit	➢ No Response ➢ Response is not a limit
	Section 2:Work - interests, skills, limits	➢ States employment interest ➢ States employment skill	➢ No Response ➢ Response is not an interest ➢ No Response ➢ Response is not a skill
		➢ States employment limit	➢ No Response ➢ Response is not a limit

APPENDIX E: DEFINITIONS FOR CORRECT AND INCORRECT RESPONSES
(Continued)

	Section 3: Independent Living - interests, skills, limits	➢ States independent living interest	➢ No Response ➢ Response is not an interest
		➢ States independent living skill	➢ No Response ➢ Response is not a skill
		➢ States independent living limit	➢ No Response ➢ Response is not a limit
Lesson 5	*Ask questions if you don't understand*	➢ Response includes request for questions or comments (e.g., does anyone want to day anything) ➢ May indicate no need for questions ➢ Does not need to use the word question)	➢ No response ➢ Nothing mentioned about questions or comments
Lesson 6	*State the support you'll need*	➢ Response includes support needed for future school goal ➢ Does not need to use word support	➢ No response ➢ Does not state a support for school goal
		➢ Response includes support needed for education goal ➢ Does not need to use word support	➢ No response ➢ Does not state a support for education goal
		➢ Response includes support needed for employment goal. ➢ Does not need to use word support	➢ No response ➢ Does not state a support for employment goal
		➢ Response includes support needed for independent living goal ➢ Does not need to use word support	➢ No response ➢ Does not state a support for independent living

APPENDIX E: DEFINITIONS FOR CORRECT AND INCORRECT RESPONSES
(Continued)

Lesson 7	*Summarize your goals*	➢ Response includes goal and support for future school goal	➢ No response ➢ Only future school goal stated ➢ Only school support stated
		➢ Response includes goal and support for education	➢ No response ➢ Only education goal stated ➢ Only education support stated
		➢ Response includes goal and support for independent living	➢ No response ➢ Only independent living goal stated ➢ Only independent living support stated
		➢ Response includes goal and support for future school goal	➢ No response ➢ Only future school goal stated ➢ Only future school support stated
	Close meeting by thanking everyone	➢ Response includes "thank you"	➢ No response ➢ Does not say word "thank"

APPENDIX F: DATA COLLECTION SHEET FOR TIME TALKED IN MOCK IEPS

10s Time Sampling

Directions: Record who is speaking at the end of each 10s interval.

Student: _____

Observer: _____

Date: _____ Circle correct Mock IEP: PRE / Post

10s	20s	30s	40s	50s	1:00
1:10	1:20	1:30	1:40	1:50	2:00
2:10	2:20	2:30	2:40	2:50	3:00
3:10	3:20	3:30	3:40	3:50	4:00
4:10	4:20	4:30	4:40	4:50	5′00
5:10	5:20	5:30	5:40	5:50	6:00
6:10	6:20	6:30	6:40	6:50	7:00
7:10	7:20	7:30	7:40	7:50	8:00
8:10	8:20	8:30	8:40	8:50	9:00
9:10	9:20	9:30	9:40	9:50	10:00
10:10	10:20	10:30	10:40	10:50	11:00
11:10	11:20	11:30	11:40	11:50	12:00
12:10	12:20	12:30	12:40	12:50	13:00
13:10	13:20	13:30	13:40	13:50	14:00
14:10	14:20	14:30	14:40	14:50	15:00
15:10	15:20	15:30	15:40	15:50	16:00
16:10	16:20	16:30	16:40	16:50	17:00
17:10	17:20	17:30	17:40	17:50	18:00
18:10	18:20	18:30	18:40	18:50	19:00
19:10	19:20	19:30	19:40	19:50	20:00
20:10	20:20	20:30	20:40	20:50	21:00
21:10	21:20	21:30	21:40	21:50	22:00
22:10	22:20	22:30	22:40	22:50	23:00
23:10	23:20	23:30	23:40	23:50	24:00

Appendix F. 10s Time sampling collection sheet: (S) student, (SP) Special education teacher, (GE) General education teacher, (L) LEA representative, (P) Parent, (M) Multiple speakers, (O) Other participant, (N) No one speaking.

APPENDIX G: SOCIAL VALIDITY: STUDENT SURVEY

Student Survey Read the question and circle the correct answers.			
1. I feel ready to lead my IEP meeting.	 Yes	 Maybe	 No
2. I know what I was supposed to do at the IEP meeting.	 Yes	 Maybe	 No
3. The *Self-Directed IEP* and checklist helped me be ready for my IEP meeting.	 Yes	 Maybe	 No
4. The checklist helped me know what to do in my IEP meeting.	 Yes	 Maybe	 No
5. I liked learning what to do at my IEP meeting.	 Yes	 Maybe	 No

APPENDIX H: SOCIAL VALIDITY: TEACHER SURVEY

Please read each question about the *Self-Directed IEP* using a Checklist with picture prompts and circle your answer.			
1. Students lead their mock IEP meetings.	Agree	Not sure	Disagree
2. Students knew what to do at their mock IEP meetings.	Agree	Not sure	Disagree
3. The addition of the Student IEP Checklist with picture prompts assisted students in learning how to lead their own IEP.	Agree	Not sure	Disagree
4. The *Self-Directed IEP* with Student IEP Checklist appeared easy to use.	Agree	Not sure	Disagree
5. I would use the *Self-Directed IEP* with student checklist in my classroom.	Agree	Not sure	Disagree

Additional comments:

_____
_____
_____
_____
_____

APPENDIX I: SOCIAL VALIDITY SURVEY: IEP PARTICIPATION MEASURE

Student: _____ Date: _____

Observer: _____ Mock IEP #1 _____ Mock IEP #2 _____

Please score each student on level of participation in their IEP meetings by circling your level of agreement with each statement.

1	Student made eye contact with team members.		None 0 1 Some 2 3 Always 4
2	Student sat up in chair.		None 0 1 Some 2 3 Always 4
3	Student asked questions.		None 0 1 Some 2 3 Always 4
4	Student expressed opinions/feelings.		None 0 1 Some 2 3 Always 4
5	Student was engaged in discussion.		None 0 1 Some 2 3 Always 4

APPENDIX J: LESSON FORMAT

Lessons	Objective	Lesson Summary
1	Students will be able to state the purpose of the meeting.	Probe without Student IEP Checklist • Introduction and overview • Show and discuss entire video • Preview lesson (show picture prompt) • Teach vocabulary (use pictures for each new word) • View first part of video • Discuss purpose of meeting • Student/experimenter write purpose on Student IEP checklist • Practice beginning the meeting • Evaluation - Role play with Student IEP checklist
2	Students will be able to introduce each team member by name and role.	Probe without Student IEP Checklist • Preview lesson (show picture prompt) • Teach vocabulary (use pictures for each new word) • View first part of video • Discuss who attended Zeke's staffing • Student/experimenter write who may attend a student's staffing on Student IEP Checklist • Practice introducing everyone • Evaluation - Role play with Student IEP Checklist
3	Student will be able to state three past goals and give at least one action for each goal.	Probe without Student IEP Checklist • Preview lesson (show picture prompt) • Show part of video (optional) • Discuss Zeke's past goals • Discuss student's IEP goals • Student/experimenter copy current IEP goals on Student IEP Checklist • Discuss Zeke's actions for simple goals • Student/experimenter write actions for student's current IEP goals on Student IEP Checklist • Student practices saying goals and actions
		Preview lesson (show picture prompt) • Teach vocabulary (use pictures for each new word) • Show part of video (optional) • Discuss how Zeke received feedback for his goals • Discuss how to receive feedback for sample goals • Student/experimenter write how to receive feedback for their goals on Student IEP Checklist • Student practices saying goals, actions, and feedback • Evaluation - Role play with Student IEP Checklist

APPENDIX J: LESSON FORMAT (Continued)

4	Student will be able to state at interests, skills, and limits for education	Probe without Student IEP Checklist • Preview lesson (show picture prompt) • Teach vocabulary (use pictures for each new word) • Show part of video (optional) • Discuss transition areas • Discuss Zeke's interest, skills, and limits • Student/experimenter write student's education interest, skills, and limits on Student IEP Checklist • Student practices education interest, skills, and limits
	Student will be able to state at interests, skills, and limits for employment	• Student/experimenter write student's employment interest, skills, and limits on Student IEP Checklist • Student practices education interest, skills, and limits
	Student will be able to state at interests, skills, and limits for independent living	• Student/experimenter write student's independent living interest, skills, and limits on Student IEP Checklist • Student practices education interest, skills, and limits • Evaluation - Role play with Student IEP Checklist
5	Student will be able to ask questions if they do not understand	Probe without Student IEP Checklist • Preview lesson (show picture prompt) • Show part pf video (optional) • Discuss how Zeke asked questions • Practice ways to ask questions • Student/experimenter write ways to ask questions Student IEP Checklist • Teach vocabulary (use pictures for each new word) • Student practices stating goals • Evaluation - Role play with Student IEP Checklist
6	Student will be able to state supports needed.	Probe without Student IEP Checklist • Preview lesson (show picture prompt) • Teach vocabulary (use pictures for each new word) • Show part of video (optional) • Discuss supports needed for goals • Student/experimenter write support needed for students' goals on Student IEP Checklist • Student practices saying goals, actions, feedback, and support • Evaluation - Role play with Student IEP Checklist

APPENDIX J: LESSON FORMAT (Continued)

7	Student will be able to summarize goals	Probe without Student IEP Checklist • Preview lesson (show picture prompt) • Teach vocabulary (use pictures for each new word) • Show part of video (optional) • Discuss how to summarize goals • Discuss how to summarize goals • Student/experimenter write how to summarize Student IEP Checklist • Student practices summarizing goals • Evaluation - Role play with Student IEP Checklist
	Student will be able to close meeting by thanking team members	Probe without Student IEP Checklist • Preview lesson (show picture prompt) • Show part of video (optional) • Discuss ways to close meeting • Student/experimenter write closing for own staff meeting Student IEP Checklist • Student practices closing the meeting by thanking everyone • Evaluation - Role play with Student IEP Checklist

APPENDIX K: PROCEDURAL RELIABILITY CHECKLIST

Observer: _____ Date: _____

Modified *Self-Directed IEP Lesson*: _____

Modified Self-Directed IEP	YES	NO
1. Experimenter followed the probe script at the beginning of the lesson.		
2. Experimenter collected data using the data collection sheet.		
3. Experimenter previewed the lesson with picture prompts.		
4. Experimenter introduced new vocabulary for that lesson.		
5. Experimenter showed the accompanied *Self-Directed IEP* video.		
6. Experimenter discussed the specific step addressed in the video.		
7. Experimenter had the student state the contents of the step.		
8. Experimenter or student wrote answers to step on Student IEP Checklist.		
9. Student practiced the steps of the IEP using the self-monitoring student checklist.		
10. Experimenter thanked the student for attending the sessio		

Additional Observations:

_____

_____

_____

APPENDIX L: PLEDGE OF CONFIDENTIALITY

The University of North Carolina at Charlotte
9201 University City Boulevard
Charlotte, NC 28223-0001

College of Education
Department of Special Education
and Child Development
704/687-8772

Pledge of Confidentiality

I _____, through my involvement with and work on the *Effects of a Self-Monitoring Checklist as a Component of the Self-Directed IEP* research project, will have access to data which contains confidential information that respondents generally perceive as personal and private. I understand that access to this confidential information and data carries with it responsibility to guard against unauthorized use and to abide by the data security plan. To treat information as confidential means to not divulge it or make it accessible to anyone who is not a project member. Such a disclosure would violate the confidentiality promised to participants and would violate University ethics policies.

I agree to fulfill my responsibilities on this project in accordance with the following

1. I agree to not permit non-project personnel access to the data, either electronically, in hard copy or orally.
2. I agree to not attempt to identify individuals, families, households, or schools, except in those cases where it is necessary in accordance with my role on the research project.
3. I agree that in the event I inadvertently uncover the identity of an individual, family, household, school or institution, I will maintain the highest level of confidentiality of this information, make no use of the knowledge and inform the study's Principal Investigator.

_____
Name (Print)

_____ _____
Signature Date