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CONDUCTING CLASSROOM PREFERENCE ASSESSMENTS TO DETERMINE EFFECTIVE REINFORCERS FOR STUDENTS WITH DISABILITIES

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CONDUCTING CLASSROOM PREFERENCE ASSESSMENTS TO

DETERMINE EFFECTIVE REINFORCERS FOR STUDENTS WITH

DISABILITIES

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A Project

Presented to the

Faculty of

California State University,

San Bernardino

_____

In Partial Fulfillment

of the Requirements for the Degree

Masters of Science

in

Special Education

_____

by

Jessica F. Mitchell

March 2020

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Approved By:

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ABSTRACT

Reinforcement is a way to help students acquire and maintain skills and appropriate behaviors. This review of literature focuses on a variety of educational studies on students who have special needs. A majority of these studies discussed the types of reinforcers and assessments utilized in either these students' classrooms or in the researchers' offices.

All educators should find a variety of reinforcers for their students; in order to avoid a student's satiation (when they are bored of a specific reinforcer) for a specific item. The most productive way educators can avoid a student becoming satiated with a specific reinforcer is either introducing new reinforcers to the student that are similar to that student's previous preferred reinforcer(s), or assessing the student to find another preferred reinforcer the student will work for. This review of literature will define what preference assessments are, and also looks at the benefits of using various forms of reinforcement with students with disabilities. This review of literature will explain the types of preference assessments educators can utilize to help create an effective reinforcement system within the classroom.

Keywords: preference assessments; special education and preference assessments; evidence-based practices; applied behavior analysis and reinforcement; applied behavior analysis and preference assessments

ACKNOWLEDGEMENTS

I want to dedicate my thesis to my family and friends who have supported me through this process. They gave me the encouragement needed to help me stay positive and reach my goal of completing my master's degree.

TABLE OF CONTENTS

CHAPTER ONE

METHODS

Study Eligibility for Inclusion

The databases utilized to find studies for this topic included EBSCOhost (ERIC and PsychInfo databases) and John M. Pfau Library online research study database (SFX by Ex Libris Inc.). Over 11,903 studies were found when typing in the keywords "preference assessments" and the years spanned from 1901-2019. Therefore, in order to refine the search to a more succinct and focused sampling of the research question at hand, the following strategies and limiters were utilized:

a) The publication years were limited between 2009 to 2019 in order to find the most current and up to date information pertaining to preference assessments.

b) Scholarly (Peer Reviewed) Journals were used because of the lengthy process that marks the study as being highly academic, informative and accurate information about a given topic.

c) Since the research question focuses on educating educators about the various types of preference assessments, the ages of the participants/students was also a limit by focusing on school age students (ages 3 to age 22) from preschool to adult programs. There had to be at least four or more participants in the study to make sure

there is a good sample size for each of the studies to better determine

if the study had enough data.

d) Finally, specific keywords (see section 2.2) were typed into the

advanced search bar which helped refine the search to around 30

studies to choose from.

Keyword Search Criteria

In order to facilitate my search, the keywords that were entered onto

EBSCOhost and library databases were: *preference assessments; special

education and preference assessments; evidence-based practices; applied

behavior analysis and preference assessments*. These words helped find and

filter out studies that did not match my research question.

Final Total of Valuable Resource. Many valuable studies were found, and 20

were deemed beneficial to the current research question. When conducting a

search for studies that were not available as a PDF online on EBSCOhost, an

inter-library loan request form was completed online and the John M. Pfau

Librarians located the study and sent it as a PDF by searching other universities

archives. Also, by completing a search in already chosen studies to locate more

studies about preference assessments, ten more studies were discovered as

beneficial for the following literature review.

Study Findings Found in Tables 1 and 2

The majority of the studies' findings in tables 1 and 2 either had positive outcomes/results or mixed outcomes/results and only one study had negative results (Mechling, L. & Moser, S., 2010) because the study's results did not find a conclusive reinforcer preference from their assessment since each of the five participants preferred something different.

The results in Table 1 were as follows: Positive results meant the outcomes identified the most beneficial assessment educators can use to find students reinforcers (Brodhead, Abston, Mates, & Abel, 2017; Call, Trosclair-Lasserre, Findley, Reavis & Shillingsburg, 2012; Clark, Donaldson & Kahng, 2015; Curiel, H, Curiel, E, Li, Deochand & Poling, A, 2018; Kang, O'Reilly, Fragale, Aguilar, Rispoli & Lang, 2011; Kelly, Roscoe, Hanley & Schlichenmeyer, 2014; Kenzer & Bishop, 2011; Milo, Mace & Nevin, 2010; Snyder, Higbee & Dayton, 2012) Mixed results meant the researchers did not find a single assessment that was the most beneficial for an educator to use (Lanner, Nichols, Field, Hanson & Zane, 2009; Spear, Karsten & White, 2018)

The results for Table 2 all had positive results, which meant the outcome identified the most beneficial preference assessment training method that best helped educators learn how to conduct these assessments (Graff & Karsten, 2012; Nottingham, Vladescu, Giannakakos, Schnell & Lipschultz, 2017; Pence, St. Peter &. Tetreault, 2012; Rosales, Gongola & Homlitas, 2015; Weldy, Rapp, & Capocasa, 2014).

CHAPTER TWO

OVERVIEW OF STUDIES

The twelve studies (see Table 1) had a total of 4 to 31 participants and the

ages of the participants in the studies ranged from age 2 to 25. The participants

had mild to severe intellectual disabilities and they attended private schools,

public schools' Special Day Class (Curiel et. al., 2018), inpatient units or were at

a summer school program.

Multiple Stimulus Preference (MSWO) and Paired Stimulus (PS) Assessments

The assessments that many researchers focused on were the Multiple

Stimulus Preference (MSWO) and Paired Stimulus (PS) preference

assessments. Six studies (three studies focusing on MSWO and three studies

focusing on PS assessments) examined the usefulness of these assessments

and the possible effectiveness these assessments may be for educators to use in

their classrooms.

Multiple Stimulus Preference Assessments (MSWO)

The definition for MSWO is as follows: Educators rank reinforcers for a

student from most to least preferred among an array of three or more

choices/stimuli (visually, verbally or pictorial). The student is given access to the

item, the educator removes it from the next trial and will continue removing

items until no items remain or the student no longer responds.

The three studies (Milo et.al. 2010; Brodhead et. al., 2017; and Curiel et. al., 2018) focusing on MSWO assessments were non-comparative with other preference assessments and focused on the effectiveness and versatility of conducting the MSWO assessment in classrooms. For example, the study conducted by Brodhead et. al. (2017) was looking at the effectiveness of brief video based MSWO assessments with students who have Autism. The study had four participants who all had Autism and were able to navigate technology and match pictures. Next, brief MSWO assessments were conducted with all four participants (MSWO- NO, MSWO- no access, and MSWO-WA, MSWO- with access). The findings concluded that it furthers the previous research stating that MSWO-NO was "…more efficient in terms of administration… [and] an accurate format for assessing preference…for some children with Autism" (p. 173).

The other studies also agreed that conducting brief MSWO assessments were shown to be beneficial and effective ways for educators to assess their students to learn what they each find reinforcing, as found in the study conducted by Milo et. al (2010) that by using a MSWO assessment varied reinforcers were found to be more reinforcing for students than constant reinforcers.

<u>Paired Stimulus Preference Assessments (PS)</u>

The definition of Paired Stimulus Preference Assessments (PS) is as follows: An educator chose a plethora of stimuli and presents two stimuli at a time to a student and asks them to choose one, and will continue pairing two items until all stimuli are paired with each other.

The three studies about the effectiveness of PS preference assessments (Kenzer & Bishop, 2011; Clark et. al., 2015; Spear et. al., 2018) were non-comparative with other assessments and the researchers wanted to test out various types of PS assessments to see which one is the most beneficial and useful version of this assessment (e.g. Clark et. al., 2015) used two versions of PS called Tangible Paired Stimulus and Video Paired Stimulus).

For example, Kenzer and Bishop (2011) wanted to use the PS assessment to find which type of reinforcer (novel or familiar) would be preferred for 31 students who participated in their study. They asked 39 staff members (educators, paraprofessionals etc.) to list preferred stimuli for each student as well as non-preferred items, and the researchers picked novel or unknown stimuli to introduce to the students. While utilizing a PS assessment, they paired novel and familiar reinforcers with each other. The results of the PS assessments showed the importance to include novel reinforcers for students because out of the 31 participants, 27 participants enjoyed interacting with and eating new reinforcers that educators may not have known prior were reinforcing for that student.

Comparing Multiple Stimulus Preference (MSWO) and Paired Stimulus (PS) with Each Other and Other Assessments

The four remaining studies (Lanner et. al., 2009; Kang et. al., 2011; Call et. al., 2012; Kelly et. al., 2014) were comparative studies between MSWO and PS assessments am and other types of preference assessments (SS and FO) to whittle down further which preference assessment is the most beneficial for educators to use in their classrooms.

For example, Lanner et. al (2009) and Call et. al. (2012) compared the PS and MSWO assessments. Call et. al. (2012) researched which assessment (PS and daily MSWO assessment) discovers the most accurate results in the least amount of time. The study was conducted with seven participants who all had developmental disabilities and were in a summer program for children with Autism. The researchers presented six to seven items during the PS assessment as well as the same items used during the daily MSWO assessments. The main difference between the two assessments was that the PS assessment was given one time and the MSWO assessment every day to equal a total of 18 hours. The results for this study differed than previous studies because they found both assessments as being effective at finding students reinforcers. However, the most important finding for educators was that the quantity of reinforcers can be great if they conduct a MSWO assessment if the goal was to help "maintain low effort responses", however they may not be the highest reinforcers for a student which could be found if the educator conducted

a PS assessment which will helps "maintain higher effort responses" (Call et. al, 2012, pg. 775).

The consensus in the two studies (Lanner et. al., 2009; Call et.al. 2012) was that both the PS and MSWO assessments, were useful at finding reinforcers for students with special needs, however PS assessments were less time consuming for educators to complete.

Current Research Utilizing Technology and Preference Assessments

The four most recent studies (2010 to now) are assessing the validity and usefulness of using preference assessments with technology instead of the traditional paper and pencil assessments (Mechling & Moser, 2010; Snyder et. al., 2012; Clark et. al., 2015; Brodhead et. al., 2017).

For example, the Snyder et. al. (2012) study stated that this was one of the first to examine the use of video preference assessments (VPAs) in classrooms. This study also mentions a previous study about video preferences for students with Autism based on viewing videos starring themselves, peers and the staff in their class (Mechling & Moser, 2010). Snyder et. al (2012) had a total of six participants all of whom had Autism and had skills for matching video to objects and choosing between two tangible stimuli. The tangible and video preference assessments last between 15 to 30 minutes and were conducted on the same day. The results suggested video preference assessments are a valid way for educators to assess for a students' reinforcers especially because having videos

can better assess if the student will be reinforced by more complex reinforcers like watching a child play with a toy car instead of just seeing an image of a car or the toy car itself.

Clark et. al (2015) furthered the research by Snyder et. al. (2012) by stating that the findings about VPAs also show their effectiveness in finding reinforcers. The main difference is that Clark et. al. (2015) did not allow the participants access to the tangible item, as was allowed to the participants in the study by Snyder et. al (2012). The results of all studies show how important it is for educators to be trained not only using preference assessments with paper and pencil, but also the importance of learning how to assess students using technology.

Educators Implementation/Knowledge of Preference Assessments

The five studies (Table 2) included educators and/or staff who were unfamiliar with conducting preference assessments (PA). They ranged from not having a bachelor's degree to one participant having a Master's degree, and had experience that ranged from teaching one month up to 25 years. The five studies ranged from three to eleven participants (e.g. educators, paraprofessionals), and four of the five studies incorporated students to check the educators' knowledge and skills with conducting preference assessments (for example, only educators participated in the study by Pence et. al. (2012). These studies looked at the importance for educators to A) receive the most effective training that best

supports their learning and skills in conducting preference assessments, and B) know how to properly conduct a preference assessment to best find each individual student's reinforcers.

For example, Weldy et. al. (2014) study focused on video presentation with instructions and modeling to train nine educators and other staff to conduct a brief MSWO assessment with their students. At first viewing of the video presentation, two of the participants did not meet the mastery criteria of 90%, however when they viewed the presentation for the second time, they met the criteria. Therefore, the results furthered previous research showing that staff can learn how to conduct brief preference assessments by video modeling (e.g. 60-90-minute training sessions).

Rosales et. al. (2015) furthered previous research by Weldy et. al (2014) by using video modeling with instructions to help educators who teach students with Autism. After the training, the educators were asked to practice what they learned with six students to see if this type of training was successful at conducting the Paired Stimulus (PS), Multiple Stimulus without Replacement (MSWO) and Free Operant (FO) assessments. The FO assessment, according to Kang et. al. (2011) is: "the implementer presents the entire group of items in an array and moves a distance away from the assessment area…The participant is free to access any item (or no item), and items are not removed from the participant during the assessment (p. 836).

The study consisted of three educators who had worked at the center with students with Autism for one month up to five years. None of the teachers had prior knowledge about how to conduct preference assessments. After the educators were taught how to conduct the assessments by watching the videos, six students (ages 3 to 10) with Autism participated to determine if the educators were able to conduct the assessments as a result of their training sessions. The results furthered the previous research that video modeling is a successful way to train educators on how to conduct the PS, MSWO and FO assessments. For example, the study states that the baseline for the PS assessment was 41% however after the training it went up to 87%. Rosales et. al. (2015) states that these findings were corroborated by the findings by Weldy et. al (2014) who also found that video modeling for educators was a successful training method for educators conducting preference assessments.

CHAPTER THREE

IMPORTANCE FOR EDUCATORS TO UTILIZE PREFERENCE

ASSESSMENTS IN THEIR CLASSROOMS

Cumulative Results for the Tables Findings

The results for nine of the 12 studies in table 1 had positive findings, two had mixed findings (Lanner et.al, 2009; Spear et. al., 2018) and only one had negative findings. (Mechling & Moser, 2010) Therefore, this shows the readers that utilizing preference assessments in classrooms has proven effective in helping determine students with disabilities preferred reinforcers.

Information for Educators on Types of Assessments and Reinforcers

Many educators may confuse the types of assessments available (choice versus preference assessments). Canella et. al. (2005) explained in their literature review that the main difference between the two is that "…preferences may remain constant or change… [while] choice is the vehicle used to express those preferences" (p. 10). Therefore, it is important to allow the child to choose what they want to work for every day; however, it is still important for an educator to conduct a preference assessment in order to have a general idea what that student likes prior to them choosing a reinforcer.   By having the results for each student's preference assessment, the educator can have an idea of what to offer

as reinforcers and the child can choose which one, they would like to work for each day.

The important distinction between the different types of reinforcers is knowing what replenished and un-replenished reinforcers are and what they may be for each student in your class. Spear et. al (2018) defines un-replenished reinforcers as "familiar play or leisure items…" and replenished reinforcers as "…items that are replenished frequently" and are unfamiliar or novel items (p. 108). Spear et. al. (2018) research focused on what students' with Autism are reinforced by and if they really are rigid (choosing only familiar items) in what reinforcers they want to work for (e.g. un- replenished reinforcers) or if they will choose novel items they may have never seen before but may have similar properties to other items they are familiar with (e.g. replenished reinforcers).

This study's findings showed that students with Autism do choose replenished/novel items just as readily as un-replenished, which is also seconded by the findings from the study by Kenzer and Bishop (2011). Kenzer and Bishop (2011) found that from the 31 students with Autism they assessed, 27 of the 31 students chose both novel and familiar items, and only 4 students chose the familiar stimuli that staff had told the researchers were preferred items for that student. Both of their findings stressed the importance for educators to include new/novel items so their students can add these new items to their reinforcer repertoire and in turn, will prevent them from becoming satiated by familiar items.

Lastly, the main challenge many educators may face is making sure the assessment does not contribute to the student displaying inappropriate behaviors, because that would cause the assessment results to be invalid. Kang et. al. (2011) conducted a study that looked at the PS, MSWO and Free Operant (FO) which discovered how children whose behavior requires access to tangibles or edibles displayed behaviors when the item was taken away and when their behaviors were attention seeking. The limited requirement for interaction in the FO assessment also caused the student to display behaviors. Therefore, when the educators know the function of each of their students' behaviors, they will be able to find the most appropriate assessment for them which, in turn, will allow them to find the most accurate results of their highest reinforcers. In conclusion, it is crucial to have each student's highest reinforcers readily available by knowing exactly what it is in order to help shape their behavior and teach each student to their highest potential (Lanner et. al., 2009, p. 465).

Comments on Different Ways Educators Can Conduct Preference Assessments

There are many different types of preference assessments that educators can use with their students; knowing which one is the most useful or avoids causing a student to display a behavior unconducive to finding their reinforcers, can be difficult. There have been various studies, however, which help narrow down the amount of assessments educators need to sift through to a more manageable amount.

Lanner et. al (2009), Call et. al (2012), and Kelly, et. al. (2014) found that the Paired Stimulus (PS) assessment proved to be slightly better at finding students with disabilities (e.g. Autism) highest reinforcers. The studies by Call et. al (2012) and Lanner et. al. (2014), also found that the Multiple Stimulus without Replacement (MSWO) assessment was beneficial and yielded high results at finding students' reinforcers it just took longer to assess the students. The study conducted by Curiel et. al. (2018) found that using a brief three session MSWO assessment successfully yielded information for educators about the students' highest reinforcers without taking as much time as the previous version of the MSWO assessment. Therefore, either of these assessments (PS and MSWO) would be useful for educators to utilize when determining each students' reinforcers at the beginning of the school year.

Currently, there is a plethora of research looking at up-and-coming methods to better help educators conduct preference assessments, the main focus is with technology (e.g. computer programs) so the educator will not need to use paper and pencil. This move towards technology helps educators be better able to categorize and keep track of each student's assessments instead of relying on keeping paperwork filed and organized in chronological order. Two such studies were by Snyder et. al (2012) and Clark et. al. (2015) who looked at furthering the research about using Video Preference Assessments (VPA) instead of Tangible Preference Assessments (TPA). The findings showed that TPA were valuable at helping educators find their students' reinforcers even if the student was not

allowed access to hold or view the reinforcer shown to them on the screen.

Therefore, these new types of assessments have greatly improved the ways

educators can plan and utilize their paraprofessionals to help conduct these

assessments without having to rely on having paper, pencil and the reinforcers

handy to show and use during a preference assessment.

Effective Preference Assessments Training Strategies for Educators

Educators are always training and learning new skills; however, many may

not be sure how to effectively conduct preference assessments as observed from

various studies found in table 2. There are various studies devoted to discovering

the most efficient and productive ways educators, and other staff working with

students with disabilities, can be trained on how each assessment is supposed to

be conducted, and therefore, be able to better find each student's reinforcers. For

example, the study conducted by Graff and Karsten (2012) expressed how

"…inexperienced individuals cannot accurately implement stimulus preference

assessments…" (p. 69). Therefore, as the findings discovered, training staff how

to conduct assessments by using pictures, enhanced written instructions, step by

step examples and limited jargon best helped support and teach these staff

members how to best assess students using the PS and MSWO assessments (p.

81).

Another effective mode of instruction was studied by Pence et. al. (2012)

which found that educators and staff can train each other based on tiers

(pyramidal training) where the first tier of educators are trained by behavior analysts, then they train the second tier and so on and so forth (p. 357). The findings showed that this is an effective way an educator can be trained to implement and find reinforcers without always needing the training to be taught by behavior analysts, which therefore would save time and money in the long run.

Finally, Nottingham et. al. (2017) utilized a different type of assessment called voiceover instruction and on-screen text (VMVOT) which was defined as

>…showing a trainee a video depicting a trained individual implementing a behavioral technology with a simulated or actual consumer. After viewing the video, training scenarios with simulated or actual consumers are arranged to determine the degree to which the trainee can implement the behavioral technology depicted on the video. (p. 38)

Nottingham et. al (2017) used VMVOT as a training procedure for educators to see if this form of instruction helped increase their ability to learn how to properly conduct a preference assessment (single stimulus/SS, paired stimulus/PS, multiple stimulus without replacement/MSWO).

The results showed that with VMOT and feedback from trainers, the educators were all able to master and implement the assessments with a client. Therefore, the results from the current study helped further the results from previous studies that VMOT is an effective way for educators to learn how to implement these assessments in their classrooms especially since during the

training. VMOT, also, helped educators determine which assessment was the most appropriate to give their students based on the child's background and behaviors, (e.g. the findings by Kang et. al. (2011) showed the importance of knowing what a students' behaviors are and which assessment is not useful based on various behaviors.)

CHAPTER FOUR

FOCUS OF FUTURE RESEARCH WITH REGARDS TO PREFERENCE

ASSESSMENTS AND CONCLUDING REMARKS

Future Research

Researchers are still discovering and comparing the various types of

preference assessments as well as discovering new ways educators can conduct

these assessments, e.g. with technology. However, preference assessments

should continue to be researched due to its importance to educators of students

with disabilities.

One shared idea from the following researchers (Mechling & Moser, 2010;

Snyder et. al., 2012; Clark et. al, 2015; Brodhead et. al, 2017; Curiel et. al, 2018)

is there a correlation between using technology to conduct the assessment and

the accuracy of the assessment due to the student's heightened attention and

interest of the material presented in this format. Another common idea from the

following researchers (Pence et. al, 2012; Weldy et. al, 2014; Nottingham et. al,

2017) stated how important it is to continue evaluating the reliability of the

training methods for conducting preference assessments. The study states that

future research should assess educators and staff if they have any previous

knowledge with conducting preference assessments and then helping the staff

and educators maintain the skills taught to them during the trainings. The study

by Kang et. al. (2011) states a crucial area for future researchers to investigate is

to examine the student's problem behaviors prior and during the assessment in order to determine if the preference assessment results are accurate.

Finally, after reviewing all of the studies above, there seems to be a limited focus on students with learning disabilities and emotional disturbances. These students are also in special education classes; however, many of the studies focused on students with Autism or those who have an intellectual disability. It would be useful for future studies to look at other types of disabilities, that way educators can find the appropriate reinforcers for all their students with special needs.

Concluding Remarks

As stated throughout, it is evident that educators need to discover and utilize the correct preference assessments to obtain the results necessary best identify each of their student's preferred reinforcers. The various studies examined the different types of assessments (e.g. MSWO, PS, SS, MS) in order to help educators, discern which are the most useful to use with a given population/student.

Special educators deal with a variety of challenging responsibilities. Possibly the most challenging, is dealing with inappropriate behaviors. Therefore, knowing how to correctly conduct preference assessments will help special educators know what each of their students are motivated to work for. This is crucial in helping educators create reinforcement systems to improve their effectiveness as an educator and increase the academic and social growth of

their students. An added benefit of a successful reinforcement system will be less teacher stress and burnout. It is vitally important for educators to implement evidence based strategies, e.g. ABA strategies like preference assessments, in their classrooms (Jennett, Harris, & Mesibov, 2003). Educators should have proper training on how to best administer preference assessments so they can obtain the most accurate results for each of their student's highest reinforcers in order to set up a classroom structure. When the assessments are administered and the results tallied, the educators will have a clear and more accurate picture about what motivates and encourages students to complete their work and learn how to respond to directives in a more appropriate manner.

A few studies (Lanner et. al., 2009; Milo et. al., 2010; Kang et. al., 2011) also found which assessments should not be used because they may encourage a student to express inappropriate behaviors that, in turn, would invalidate the results found at the end of the assessment. Kang et. al (2011) noted that while observing a student, educators need to see how the student is seeking attention, attending to work tasks and how they are acting towards peers or adults. These observations are necessary prior to giving a student an assessment in order to determine which assessment will give the most accurate results. Also, if on assessment day there are stimuli that may interrupt or distract the student, e.g. too much noise, the student did not sleep well the night prior, they are hungry etc. then the educator needs to wait for a better time to give them the

21

assessment (Milo et. al., 2010). Finally, educators need to evaluate the difficulty of the task and determine whether or not it is a non-preferred task to ensure that the stress of completing the assessment will not affect the accuracy of the results. For example, asking a child to touch his nose versus completing a math worksheet to earn the reinforcer will prevent the task from interfering with the preference assessment reliability. By asking the child to do a simple task (e.g. touch nose, hand me a blue crayon, show me letter A, touch your name) the results would be more accurate and the list of reinforcers could be found for each student (Lanner et. al., 2009).

One of the new preference assessment strategies researchers are looking into currently are preference assessments conducted on technology devices, e.g. computers, tablets, chrome books (Mechling & Moser, 2010; Snyder et. al., 2012; Clark et. al., 2015; Brodehead et. al., 2017; Curiel et. al., 2018). Educators are starting to teach and conduct more lessons on technology devices every year, and students with special needs are no different when it comes to enjoying technology and learning how to manipulate and use this technology at school. Therefore, using these preference assessments on technology may have better results for educators since the student may be more inclined to join the educator if they are able to use a tablet or computer to complete the assessment. The only disadvantage that has been found is that tangible and edible assessments can be challenging when using technology since there are not as many opportunities for the student to interact or taste the item during the assessment

22

(Curiel et. al., 2018). When trained, educators may find this mode of conducting preference assessments more feasible and useful because the results may be more exact and clearer than if they did the assessments with paper and pencil.

By using this evidence-based strategy in their classrooms, educators can continue to find new and creative ways to encourage their students to strive for success by learning new tasks as well as learning how to act appropriately at school and in their community. Having access to a variety of assessment tools to choose from is crucial to a successful special education program

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APPENDIX A

LIST OF TABLES

Table 1.

Summary of Studies about various Preference Assessments (PA) and which are the most beneficial for educators to use in their classrooms

Study Author(s)	*n*	Age	Disability	PA	Findings
Lanner, Nichols, Field, Hanson & Zane (2009)	4	14-20	ASD MR	MSWO PS	Both assessments were able to find the students highest reinforcers, however the PS assessment took less time to administer than the MSWO assessment. *(Mixed Findings)*
Milo, Mace & Nevin (2010)	4	6-11	ASD	MSWO	A MSWO assessment was conducted in this study and the findings found that when students were given varied reinforcement they had higher responding rates over constant reinforcement. *(Positive Findings)*
Mechling & Moser (2010)	3 2	Boys 11-12 Girls 12-13	ASD	MS VPA	The findings did not find a clear preference for students wanting to watch a video with themselves, peer or adult however, educators need to individualize the videos modeling a preferred task depending on the student. The findings did show that the students did find watching videos of preferred tasks reinforcing, just the video content differed for each student. *(Negative Findings)*
Kang, O'Reilly, Fragale, Aguilar, Rispoli & Lang (2011).	7	4-8	ASD DD	PS MSWO FO	PS and MSWO assessments required items to be removed, so the students whose behavior was maintained by access to tangibles were adversely affected. FO assessment required less interaction between educator and student, so if behavior was maintained by attention were adversely affected. Therefore, knowing the function of a student's behavior will assist educators at finding the best assessment which in turn will find their highest reinforcers. *(Positive Findings)*

Note:
n: Number of Participants
Disability: ASD- Autism Spectrum Disorder; DD- developmental delay; MR- Mental Retardation
PA (Preference Assessment): FO- Free Operant; MS- Multiple Stimulus; MSWO- Multiple Stimulus without Replacement; PS- Paired Stimulus; VPA- Video Preference Assessment

Table 1 (cont.)

Summary of Studies about various Preference Assessments (PA) and which are the most beneficial for educators to use in their classrooms

Author(s)	*n*	Age	Disability	PA	Findings
Kenzer & Bishop (2011)	23 8	Boys 2-9 Girls 2-9	ASD ASD	PS: -H/L -H/N	Restricting students' reinforcers to only those that an educator finds as the student's highest reinforcers limits the chance at finding other novel reinforcers the student may not have interacted with prior and find reinforcing. Therefore, H/N are helpful for educators by finding other reinforcers the student is reinforced by they didn't have experience with prior to the assessment. *(Positive Findings)*
Snyder, Higbee & Dayton (2012)	6	3-5	ASD	TPA VPA	VPA is shown to be a beneficial way to present stimuli to some students, especially more complex stimuli for students. *(Positive Findings)*
Call, Trosclair-Lasserre, Findley, Reavis & Shillingsburg (2012)	7	5-18	ASD ADHD DD, SD, SID (1 boy)	PS MSWO	PS single administration was shown to be slightly better at finding students most effective reinforcer than a daily MSWO assessment. *(Positive Findings)*
Kelly, Roscoe, Hanley & Schlichenmeyer (2014)	5	9-19	PDD-NOS ASD	PS PPS SS	PS assessment proved to yield the best results for finding social reinforcers for students with ASD/PDD. *(Positive Findings)*

Note:
n- Number of Participants
Disability: ADHD- attention deficit hyperactivity disorder; ASD- Autism Spectrum Disorder; DD, SD, & SID- developmental delay, seizure disorder and sensory integration disorder; PDD-NOS - Pervasive Developmental Disability Not Otherwise Specified
PA (Preference Assessment): MSWO- Multiple Stimulus without Replacement; PPS- Pictorial Paired Stimulus; PS- Paired Stimulus (H/L- high/low preference assessment, H/N- high/novel preference assessment, TPA- Tangible Pair Assessment, VPA- Video Preference Assessment); SS- Single Stimulus

Table 1 (cont.)

Summary of Studies about various Preference Assessments (PA) and which are the most beneficial
for educators to use in their classrooms

Study Author(s)	*n*	Age	Disability	PA	Findings
Clark, Donaldson & Kahng (2015)	4	9-11	MD (i.e ASD)	PS: -TPA -VPA	The results extended previous research by showing that VPA's are useful in finding many high reinforcers versus TPA assessments. *(Positive Results)*
Brodhead, Abston, Mates & Abel (2017)	4	4-7	ASD	MSWO: -WA -NO	The results showed the MSWO-NO was the more efficient and accurate assessment educators can administer with their students who have, for example, Autism. *(Positive Results)*
Spear, Karsten & White (2018)	4	16-17	ASD	PS: R/U RX	Results showed that students chose un-replenished reinforcers more frequently, however they chose replenished reinforcers if un-replenished reinforcers were not available or they had sensory properties close to it. So both are reinforcing for students who have restrictive interests so having a variety of reinforcers available during preference assessments is recommended. *(Mixed Findings)*
Curiel, Curiel, Li, Deochand & Poling (2018)	5	Age 9: 2 boys Ages 23-25: 3 men	OHI EI ASD	MSWO	The MSWO assessment they conducted helped further research by showing how video preference can be categorized from highly to least preferred reinforcers for a student by using a brief 3 session MSWO. *(Positive Findings)*

Note:
n- Number of Participants
Disability: ASD- Autism Spectrum Disorder; EI- Emotional Impairment; OHI- Other Health Impairment; MD- Multiple Disabilities
PA (Preference Assessment): MSWO- Multiple Stimulus without Replacement (WA- With Access; NO- No Access); PPS- Pictorial Paired Stimulus; PS- Paired Stimulus (TPA- Tangible Pair Assessment, VPA- Video Preference Assessment; R/U RX- Replenished/Un-Replenished Reinforcer)

Table 2

Summary about Preference Assessments (PA) focusing on educators/staff implementation
and their knowledge of these assessments

Study Author(s)	*n*	Age	Educator/Disability	PA	Findings
Graff & Karsten (2012)	11	N/A	Educators 8= college graduates 3= Taught 3-5 years	PS MSWO	When educators were presented with written directions alone, they were unable to successfully implement PS and MSWO assessments. However, when given diagrams, step by step instructions etc., they were able to successfully implement the tests. *(Positive Findings)*
Pence, St. Peter & Tetreault (2012)	9	23-54	Educators	PS MSWO FO	Pyramidal training was shown to be an effective strategy to train educators on how to conduct the 3 types of PA. *(Positive Findings)*
Weldy, Rapp & Capocasa (2014)	9	N/A	Educators	MSWO FO	Results showed that staff can successfully conduct assessments after video modeling and instructions in a group setting and after antecedent based training to teach PA implementation. *(Positive Findings)*
Rosales, Gongola & Homlitas (2015)	3 6	N/A 3-10	Educators Taught 1 month- 5 years Students- ASD	MSW MSWO FO	Video modeling was shown to be a beneficial training method for educators to learn how to conduct PA. *(Positive Findings)*
Nottingham, Vladescu, Giannakakos, Schnell & Lipschultz (2017)	3 2	23-27 5 & 8	Educators Taught 0-15 months Students- ASD	SPA: SS, PS & MSWO	Results showed how voiceover instruction and embedded on-screen text (VMVOT) was successful in training individuals to implement various SPA's to students with ASD and educators were able to generalize these assessments in their classrooms. *(Positive Findings)*

Note:
n: Number of Participants
Disability: ASD- Autism Spectrum Disorder
PA (Preference Assessment): FO- Free Operant; MSW- Multiple Stimulus with Replacement; MSWO- Multiple Stimulus without Replacement; PS- Paired Stimulus; SPA- Stimulus Preference Assessment; SS- Single Stimulus

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