A GUIDEBOOK FOR ADAPTED PHYSICAL EDUCATORS: CONNECTING THE DOMAINS OF LEARNING TO EVIDENCE-BASED PRACTICES

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ABSTRACT

A GUIDEBOOK FOR ADAPTED PHYSICAL EDUCATORS: CONNECTING THE DOMAINS OF LEARNING TO EVIDENCE-BASED PRACTICES

Kalyn G. Ruland

I created a guidebook for Adapted Physical Educators (APE) as a resource on how they can use Evidence-Based Practices (EBP's) created by The National Professional Development Center for Autism Spectrum Disorder (NPDC on ASD) to meet the Domains of Learning. The goal for this guidebook was to help bridge the gap between educational research and practice in the classroom. EBP's are a form of research based interventions that are made easily accessible for busy educators. The main audience for the guidebook is Adapted Physical Education Teachers, with a secondary audience of Special Education and general education teachers. This guidebook was created based on scholarly literature and other resources to determine specific EBP's that would best fit the three Domains of Learning, Cognitive, Psychomotor, and Affective. The guidebook was then distributed to educators who provided the author feedback on the relevancy of the guidebook as well as how it supplemented understanding on EBP's, Domains of Learning, and the connection between the two. Feedback provided the overall framing and purpose of the guidebook with minor notes for improvement. Educators report a lack of accessible continuing education about EBP's and this guidebook could serve as a viable avenue to fill the gap.

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support and guidance while writing this guidebook. Their feedback gave amazing insight as to how I can build upon it in the future. I am honored to be part of an amazing team of Adapted Physical Educators.

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INTRODUCTION

Autism Spectrum Disorder (ASD) is characterized as a disability that affects a person's social and communication abilities as well as elicits repetitive behavior patterns and strong interests (Frith & Happe, 2005). In conjunction with these characteristics, people with ASD tend to have lower activity levels and high obesity rates when compared to neurotypical peers (Healy et al., 2019). Adapted Physical Education (APE) is a service for students with disabilities, including ASD, that can help support students to meet the standards of Physical Education (Blagrave, 2017). APE offers modifications or accommodations to a physical education curriculum so that all students can participate in physical education activities (Winnick, 1986). APE teachers also work with teachers and families to help students meet the cognitive, affective, and psychomotor domains of learning (Oliveira et al., 2019). When it comes to teaching in APE, educators are expected to use scientific based instruction according to the Individuals with Disabilities Education Act (IDEA). However, finding and implementing scientific based instruction can pose a challenge for educators due to a gap in theory and practice in education (Greenwood & Abbott, 2001). This gap is the product of limited relevant educational research. It is also due to a discrepancy between researchers and practicing educators. Finally, there lies the issue in educators having accessible research-based materials for them to use (Greenwood & Abbott, 2001).

An effective form of scientifically based instruction is Evidence-Based Practices (EBP's). EBP's are a collection of practices that have shown to be effective for students

with many different needs, especially Autism (Odom et al., 2010). The National Professional Development Center on Autism Spectrum Disorder (NPDC) determined effective EBP's for students with ASD and created Autism Focused Intervention Resources and Modules (AFIRM) to help disseminate information about the EBP's and how to implement them (Sam et al., 2020). APE teachers can use these modules as well as a collection of other resources including lesson plans and data collection as a way to meet the domains of learning for their students with ASD. This guidebook was a resource to APE teachers that explains how EBP's could be utilized to meet the cognitive, affective, and psychomotor domain of physical education for students with ASD. It included materials/ tables the helped the readers understand EBP's, the domains of learning, and the connection between the two. Once completed, I distributed the guidebook to teachers for feedback on its usefulness and applicability in their classroom.

Autism Spectrum Disorder

Autism Spectrum Disorder (ASD) is a developmental disorder that can manifest across a spectrum of abilities. Diagnosing ASD can be done as early as age two but those with ASD are often diagnosed later in life. Children with ASD will show signs of delay in reciprocal social interaction, communication, and restricted and repetitive behaviors (Lord et al., 2006) Although there is no known cause of ASD, studies have shown that it may be hereditary (Taniai et al., 2008). Students with ASD use different services at school to meet their needs such as speech therapy, social skills training, and Adapted Physical Education. Students with ASD may utilize APE services for a variety of reasons

(Holland et al., 2019). Some aspects APE teachers need to account for when working with students with ASD in an APE setting are the physical environment, instructional strategies, and behavior modifications (Colombo-Dougovito, 2015). People with ASD tend to be less active and have higher rates of obesity than their neurotypical peers. People with more significant ASD tend to have even higher rates of obesity than those with fewer needs (Healy et al., 2019). APE can give students with ASD the unique opportunity to benefit from a physical education program that supports their needs (Blagrave, 2017).

Adapted Physical Education

In the 1960's professional development programs began to be implemented in graduate level studies encompassing both special education and physical education. In 1973 the American Association for Health, Physical Education and Recreation (AAHPER) came up with a set of functions for an Adapted Physical Educator. These functions were to assess and evaluate motor development of students with disabilities, create and implement Physical Education programs that meet the needs of individuals with disabilities, as well as be a consultant to schools and families as to how they can manage an appropriate physical fitness program (Winnick, 1986).

APE teachers also serve as a consultant to teachers, paraprofessionals, and parents to ensure the students are getting the most effective Physical Education experience possible. This makes the APE professional collaborative in nature (Oliveira et al., 2019). APE teachers work in a PE program that is adapted or modified to meet the needs of

those participating in the program. Students with disabilities are given the opportunity to access the physical education curriculum specifically in the areas of "physical and motor skills, fundamental motor skills and patterns (throwing, catching, walking, running, etc.), and skills in aquatics, dance, and individual and group games and sports (including intramural and lifetime sports)" (IDEA, 2004). These adaptations can include creating visual schedules to provide structure as well as other task organization strategies such as the use of timers to show students how much more time they are expected to participate in an activity and limitation of equipment to what is necessary to reduce unnecessary stimulants (Schultheis et al., 2000).

Adapted Physical Education can support students with ASD in many ways. Teaching challenges in physical education for those with ASD include social impairment, emotional regulation difficulties, and difficulties understanding and performing tasks (Obrusnikova & Dillon, 2011). Adapted Physical Education has been shown to raise students' enjoyment in participation, meeting sensory needs, and learning new skills (Blagrave, 2017).

Eligibility

Students become eligible for APE services through either norm or criterion-referenced assessments. Norm criterion tests will give a percentile rank as a score. For a norm referenced test, generally, if a student scores 1.5 standard deviations below the mean they will be eligible for APE services. The Test of Growth Motor Development (TGMD) is an example of a norm criterion test given to assess if a student qualifies for APE service. Criterion referenced tests compare one's score to an established cut-off. In a

criterion referenced test, generally, if a student scores two years below age level they would qualify for APE. An example of this kind of assessment would be the FITNESSGRAM test. Once eligible for APE services, students typically work directly with an APE educator to meet the Adapted Physical Education National Standards (APENS). APE teachers perform these assessments on students who have been suspected of needing services by a parent or teacher.

Domains of Learning

According to the National Physical Educational Standards created by The Society of Health and Physical Educators (SHAPE) there are five standards of Physical Education. These standards cover the concept of physical literacy as it pertains to motor movements, knowledge of movement concepts, health maintenance, responsible health behaviors, and personal value of health and physical fitness (Couturier et al.). These five standards use the framework of Bloom's Taxonomy (Sam et al.), also known as the domains of learning. The domains of learning are cognitive, affective, and psychomotor.

Cognitive

The cognitive domain refers to the process of learning that happens though functions of the brain and mind. This can also be looked at as the thinking process. The cognitive domain involves processing information, constructing understanding, applying knowledge, solving problems, and conducting research. This domain is broken up into six categories that form a hierarchy in learning. It starts with being able to memorize information that has been received, to the highest level which represents a person's ability

to use knowledge to create unique ideas and apply the ideas to real world applications. The cognitive domain starts with being able to memorize information without the content knowledge behind it. This would look like a student memorizing the names of a stretch routine that they do in the APE class. As the levels increase, thinking becomes more complex until the highest level of the cognitive domain which is “creating”. In the creation part of the cognitive domain, individuals will be able to use ideas to come up with their own stretch routine and be able to explain the importance of each stretch and how they can positively affect their flexibility (Hoque, 2017).

Affective

The affective domain refers to one's attitude towards learning and how learning is processed emotionally. This domain involves one's emotions, attitudes, and feelings. The manner in which we deal with things emotionally, such as feelings, values, appreciation, enthusiasm, motivations, and attitudes are examples of how the affective domain influences learning. The affective domain is broken up into subdomains that are based on a hierarchical model. The model starts at the lowest level representing the ability to receive information based on enjoyment and adds concepts to the highest level of the model that signifies the ability to control behavior based on knowledge of what is ethical. In the classroom, this is presented through students' ability to stay on task and attentive during lessons (Hoque, 2017).

Psychomotor

The psychomotor domain looks at learning connected to gross and fine motor skills. It also looks at learning in the aspects of physical functions, reflex actions, and interpretive

movements. This domain also refers to motor learning and natural reflexes. The domain is broken down by levels of motor learning in a hierarchical model. At the bottom of the model is perception. This refers to a learner using their senses to guide their motor activity. This can look like a student running faster to get away from someone in a game of tag because they see them coming closer to them. The highest level of this domain is naturalization. Naturalization is when motor movement becomes second nature to a student. When someone is learning to strike a ball, there are various motor movements that need to be followed to do the movement correctly. When this set of movements becomes a skill, they can do it on their own without coaching, and they do not need to think about the steps first, they have mastered naturalization. Another example of this is tying shoes or riding a bike. Once the skills have been naturalized, it can be done without thinking of the process behind it (Hoque, 2017).

The Gap Between Theory and Practice

The gap between theory and practice refers to the idea that there is a separation in the communities conducting research and those implementing the findings. The gap between theory and practice is a multifaceted problem with no one solution. Research is being done at the university level by students and professors (Greenwood & Abbott, 2001). Classroom teachers are not usually involved in the research process due to the demands of their profession. Location and environment can also exacerbate the gap of theory and practice in education. Rural schools experience limitations due to their geographic location and small number of students with disabilities (Farmer et al., 2018).

Another problem that creates a gap of theory and practice is the limited number of studies as well issues in accessibility of materials that give proper explanations and examples of EBPs. APE faces its own unique issues in the gap between theory and practice because there is a lack of empirical studies in the field. This combined with the fact that little has been done to create a meaningful body of research for APE has created a gap between theory and practice in the APE field. Disseminating information on EBPs will be vital in bridging the gap between theory and practice (Hong-Min Lee, 2014).

Evidence-Based Practices

Evidence-Based Practice is defined in many different ways depending on the frame it is presented in. For the purposes of this guidebook, EBP's will be looked at in the framework of education, specifically special education. According to The National Professional Development Center on Autism Spectrum Disorder (NPDC) EBP's are defined as “an instructional/ intervention procedure or set of procedures for which researchers have provided an acceptable level of research that shows the practice produces positive outcomes for children, youth, and/or adults with ASD" (Sam et al., 2020). This definition explains that EBP's include a system of steps that an educator takes to produce positive outcomes within students cognitive, affective, and psychomotor domains. The National Autism Center also has a definition for EBP's that states “Evidence-based practice requires the integration of research findings with other critical factors. These factors include:

- Professional judgment and data-based decision-making

- Values and preferences of families, including the student on the autism spectrum whenever feasible
- Capacity to accurately implement the interventions." (NAC, 2009)

This second definition brings in the aspect of family values. Having families on board with EBP implementation supports the fidelity and consistency of interventions (Basu et al., 2010).

Research Based

Between these two definitions it is recognized that EBP's have to be data based and researched. EBP's differ from best practices by implementing a research design. Best practices are one's teachers may feel are the correct teaching practice due to their own experience, but may prove to be ineffective once tested (Kauffman, 1996). EBP's are tested through research. Research designs that have been historically used to test the effectiveness of these practices include: ground experimental, quasi-experimental, and single subject (Cook et al., 2008). These designs help fulfill the evidence-based requirement for the EBPs and can definitively back their use in education. Quasi-experimental designs fall under group comparison research. This design entails two or more groups of students to compare the results of an EBP with a variable and control group. Single subject design observes participants as their own control group and collects data before and after the EBP has been implemented ("Council for Exceptional Children," 2014).

Benefits of Evidence-Based Practices

Evidence-Based Practices have been shown to improve communication, social, and behavior outcomes of students with Autism (Sam et al., 2020). EBP's are also mentioned in both the Every Student Succeeds Act (ESSA), formerly No Child Left Behind Act, and Individuals with Disabilities Act (IDEA) as “scientifically based instruction”. ESSA requires that a significant finding is needed to qualify a practice as evidence based (Sam et al., 2020). Prominent court cases such as “Endrew vs. Douglas County" (2017) implemented changes for students with autism in the classroom and pushed for more evidence-based practice to be used such as Applied Behavioral Analysis (Hurwitz et al., 2020). This case emphasized the idea that Free and Appropriate Education (FAPE) needed to be defined through IDEA and it was decided that the educational opportunities given to students with autism needed to incorporate EBP's (Hurwitz et al., 2020). Since special education is a problem-solving field, having a system for ongoing research data collection can serve a benefit to special educators including APE teachers (Horner et al., 2005). This can be accomplished through single subject research since it focuses on the individual as well as gives clear evidence that an intervention may be working for a student or not (Horner et al., 2005).

Implementation

Knowing that EBP's are legally binding, it's important that educators know the steps in planning, implementing, and monitoring the EBP (Yun & Beamer, 2018). A comprehensive resource for this is the Autism Focused Intervention and Resource Modules (AFIRM). AFIRM was created to turn EBP’s into online modules that are

accessible to teachers through an online database (Sam et al., 2020). These modules go through the steps it takes to implement the EBP. It starts with a definition and explanation of the EBP, then the planning methods, the implementation, as well as the monitoring process (Sam et al., 2020). Teachers also need to know how to choose an appropriate EBP to help meet their intended outcome. It is important for educators to first identify the outcome they want from the EBP. These outcomes will include behaviors, but also academic skills, social skills, transition skills, communication, and play skills (Odom et al., 2010). The AFIRM module website also goes over a four-step process in identifying the appropriate EBP. This starts with the behavior needing to be recognized and defined. Then baseline data will need to be collected. After that, a goal needs to be set. This is when educators will take other factors that may be affecting the behavior into consideration. And finally, an EBP will be selected that best fits the behavior and the environment (Sam et al., 2020).

METHODS

Procedures

The goal of this guidebook was to provide APE teachers and other educators a resource to use in their classroom to help disseminate knowledge about EBP's, the domains of learning, and the connection between the two. Educators used this resource to learn about the EBP's, how to implement them, how to track progress, and ways to incorporate the EBP's into their classroom. Information about EBP's was found through scholarly literature, the NPDC on Autism Research website, and other government websites. This guidebook provided information on the three domains of learning, cognitive, affective, and psychomotor. Educators also learned the hierarchy of the domains. Finally, the guidebook described ways of meeting the domains through implementation of EBP's. In creating this guidebook, specific EBP's were deemed most applicable to each domain of learning. The EBP's were chosen based on their ability to support development in each domain of physical education. Each chapter was broken into sections to organize content. Each chapter offered an explanation of the domain as well as the EBP that is connected to it. Chapters also offered lesson plans and materials to support development in the domain. Educators reviewed the guidebook and gave feedback on its content and their perceived effectiveness and usability. Educators were recruited through email and convenience sampling and were given a Likert scale to

provide their feedback on the usability of the guidebook. Educators were also asked about the most helpful aspects of the guidebook as well as any constructive feedback they had.

Analysis

The purpose of this project was to disseminate knowledge to educators about EBP's and their connection to the domains of learning. Feedback was collected from APE and other special educators. Feedback focused on relevance of the guidebook, its usability, and how it supplemented understanding of EBP's and their connection to the domains of learning. Feedback was assessed to gauge the effectiveness and applicability of the guidebook and informed the utility of such a resource for practicing educators.

DISCUSSION

Based on feedback, educators had a positive reaction to the guidebook and its applicability and its support for understanding. Although it may not be applicable to all educators, the intended audience of Adapted Physical Educators provided feedback that this guidebook can be useful to their field. Feedback demonstrated that the guidebook benefited the understanding of Evidence-Based Practices and the domains of learning, as well as the connections between the two. Feedback also specified that the implementation section, the templates, and the tables were the most helpful aspects of this guidebook. Based on feedback, more work needs to be done in editing as well as formatting for distribution. Feedback responses described that if the information was presented in a different format, it could have provided readers a better understanding of the materials.

The main purpose for this guidebook was to provide a resource for APE teachers as to how they can use specific EBP's to meet the domains of learning. A secondary purpose of this guidebook was to bridge the gap between theory and practice in the APE field. The gap between theory and practice exists because most research in education is done at the university level and not by practicing teachers (Greenwood & Abbott, 2001). Since APE teachers are part of IEP's, their teaching should be based on scientific based instruction (Wilcox et al., 2021). With APE being a niche field, the scope of resources that utilize scientifically based teaching strategies is limited. This guidebook provided a resource to APE teachers that gave them specific EBP's that they could use in their teaching. EBP's are based on single-subject design studies that validate their functionality

as an intervention for those with ASD (Sam et al., 2020). Feedback determined that content of the guidebook could be used in the classroom of APE teachers and helped to build understanding of EBP's. This feedback helped determine that this guidebook can be used as a resource to incorporate educational theories, such as EBP's, into their teaching practice.

Some limitations faced in the creation of this guidebook were its formatting and ease of distribution. Constructive feedback provided by educators included concerns with grammatical and spelling errors, as well as the format of the document. These could both be accommodated by more time being put into the editing process. Another solution for this would be to make the information accessible through a pamphlet or short book. Other adjustments could be made in the font style and size. The guidebook could be made more accessible through the use of more pictures and graphs instead of multiple paragraphs of writing. The NPDC on ASD has great examples of this in the AFIRM modules. Most information in the guidebook was used form their website that has online modules as well as briefing packets that use colors and graphic organizers to present information. Links to this website are provided in the guidebook. Other limitation of this project lied in the small sample size of feedback received. Although feedback was consistent, a total of six educators provided feedback. A larger feedback group may have broadened feedback and gave more insight into the usefulness, relevance, and applicability of the guidebook.

This guidebook was shown to be an effective resource for APE and other educators that supported understanding of EBP's, domains of learning, and the connection between the two. Such materials could be used as a relevant resource to help

close the gap between theory and practice in education. Future work can be done on both the editing and formatting of the guidebook to make it more quickly and easily accessible to busy educators with lots of job duties on their plate.

CONCLUSION

The goal for this project was to create a resource for APE and other educators on how to connect EBP's to the domains of learning. This was done through the creation of a guidebook that connected specific EBP's to each domain of learning, cognitive, psychomotor, and affective. The guidebook broke down each EBP and described the EBP and how to prepare, implement, and track data. The guidebook also connected the EBP to one of the domains. Scholarly literature was used to connect the domain to the EBP. Finally, the guidebook offered resources educators could use when carrying out EBP's in their classrooms.

The guidebook was then sent out to educators to collect feedback on its relevance to their profession and how it helped supplement their understanding of EBP's, domains of learning, and the connection between the two. Educators also gave their feedback on the most useful aspects of the guidebook and constructive criticism they had. Based on this feedback it was determined that the guidebook was relevant to APE and special educators and helped build their understanding of EBP's, the domains of learning, and the connection between the two. Other positive feedback stated that the implementation section, the templates, and the tables were the most helpful aspects of this guidebook. Constructive feedback stated that more work needs to be done in the editing and formatting of the guidebook for distribution. Based on feedback it was determined that this guidebook is a useful and relevant resource for APE and Special Educators and could help bridge the gap between theory and practice in the classroom.

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APPENDIX

Bridging Theory and Practice:

A Guidebook Connecting the Domains of Education to Evidence-Based Practices for Students with Autism

By:

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Introduction

Educational theories can guide and frame how we teach and our understanding of how students learn. Adapted physical Educators, Special Education teachers, and general education teachers are expected to use scientifically based theories in their classroom. Every Student Succeeds Act (ESSA), formerly No Child Left Behind Act, and Individuals with Disabilities Act (IDEA) both state that educators need to use "scientifically based instruction". General Physical Education and APE teachers are guided by The 5 National Standards for K-12 Education, created by SHAPE America (Society of Health and Physical Education). The 5 standards cover motor skills, knowledge of concepts, responsibilities, and values of a "physically literate individual". The five standards use the framework of three domains of learning also known as Bloom's taxonomy.

Bloom's Taxonomy

Bloom's Taxonomy is a theoretical framework that can help explain the ways students learn. It breaks down learning into three categories; cognitive, psychomotor, and affective. Within each of these categories is a tiered model breaking down aspects of the category from most basic aspects up to more complex ways of meeting the domain.

Theories can guide teachers on how they teach, but putting them in practice may come as a hurdle for educators who have many other tasks to their jobs. The goal of this guidebook is to offer guidance as to how educators can use evidence-based practices to help meet aspects of the three domains of learning in Bloom's Taxonomy.

Evidence Based Practices

The Evidence Based Practices used for this guidebook come from the National Professional Development Center on Autism Spectrum Disorder (NPDC). According to NPDC EBP's are defined as "an instructional/ intervention procedure or set of procedures for which researchers have provided an acceptable level of research that shows the practice produces positive outcomes for children, youth, and/or adults with ASD" (Sam et al., 2020a). This definition explains that EBP's include a system of steps that an educator takes to produce positive outcomes within students cognitive, affective, and psychomotor domains. The National Autism Center also has a definition for EBP's that states "Evidence-based practice requires the integration of research findings with other critical factors. These factors include:

- Professional judgment and data-based decision-making
- Values and preferences of families, including the student on the autism spectrum whenever feasible
- Capacity to accurately implement the interventions." (NAC, 2009)

The NPDC created a collection of Autism Focused Intervention and Resource Materials, known as AFIRM modules where they have broken down evidence-based practices. These modules include information on how each EBP qualifies as evidence based. They also break down how to plan, use, and monitor the EBP and include other resources connected to the EBP.

Connecting Domains to Evidence Based Practices

Based on the EBP's provided by the NPDC in their AFIRM modules, three were chosen that showed the best fit to meet the three domains of learning according to bloom's taxonomy based on literature and content analysis done by the author. The cognitive domain is attached to Social Narrative, the psychomotor domain is attached to video modeling (a style of modeling), and finally the affective domain is attached to token economy (a style of reinforcement).

Each chapter is broken down by domain. Within each chapter you will find a framework of how the domain is used for the purpose of this guidebook. This framework is based in Adapted Physical Education and how educators in the APE field can apply these domains and EBP's in their practice. Although all special educators can use these EBP, this guidebook is proposed to the audience of Adapted physical Educators first, then special educators, and finally all teachers. Each chapter will also give an explanation and summary of the EBP being used. You will also be provided with an explanation of how the domain is connected to the evidence based practice based on scholarly literature. Finally a breakdown of how to use the EBP in a classroom setting is provided as well as resources to use to support educators using the EBP in their teaching.

Limitation and Scope

Although Evidence Based Practices are based in research they are not a fool proof design that will work for every student. Experimental designs research has shown their success in supporting development of those with ASD. Dr. Steven Shore said``If you've met one person with Autism, you have met one person with autism". Individuals with

autism will not all be affected by EBP's in the same way. This also refers back to the idea that autism is on a spectrum and all autistic individuals will have unique needs, services, and interventions that will support them in the classroom. (Hess et al., 2008) When implementing EBP's there are a series of steps to consider before implementing the intervention. First it identifies the behavior that needs to be addressed. For this guidebook we are looking at the three domains of learning as the behaviors. We are addressing the cognitive, affective and psychomotor domains. The EBP's will support students in each of these domains. Next is it important to assess or collect baseline data for each of the domains. Next, we will create a measurable goal or outcome for students pertaining to the domains. Finally, we will implement the EBP that best pertains to the domain. EBP's are interventions that need to be based on data collection. Pre-assessment data will display a present level of a student's development. Data collected during the intervention will benefit educators by expressing changes in behavior or in this guidebook's case, level of development, in each of the domains. (Sam et al., 2020b) The evidence based practices in this book are not expected to work for every student and every situation. Scholarly literature that was taken into consideration when connecting the domains to the evidence based practices. The National Professional Development Center on Autism Spectrum Disorder has collected a series of EBP's as interventions for students with autism. The EBP's they have reported on are presented in AFIRM modules for anyone to participate in. The EBP's in this guidebook were derived directly from these modules. The AFIRM website may have more information and resources for educators to use that are not listed in this guidebook. (Sam et al., 2020b) The goal of this guidebook is to create a resource

for Adapted Physical Educators and Special Education teachers that discusses how they can use specific evidence based practices to support meeting aspects of the three domains of education.

Using these EBP's can support students to meet aspects of each of the domains of education. For example, social narratives can help a student memorize knowledge about the rules in a sport or steps in a play. (Jones & Love, 2012) This meets the bottom level of the cognitive domain, retaining knowledge. When assessing this aspect of the domain, it is important to only assess knowledge retention. Once lower level aspects are being met, assessing higher level skills of the domain can then be applied to the EBP, and assessed. Video modeling for the psychomotor domain addresses the lower level of the psychomotor domain, imitation. The evidence based practice of video modeling should be used as an intervention to teach the skill of imitation, thus that is what should be assessed for and monitored. Once lower level aspects of a domain have been met, then the student can work on developing in higher levels of the domain.

Cognitive Domain

The cognitive domain refers to the process of learning that happens though functions of the brain and mind. This can also be understood as the thinking process. The cognitive domain involves processing information, constructing understanding, applying knowledge, solving problems, and conducting research. (Hoque, 2017) This domain is broken up into six categories that form a hierarchy in learning. It starts with being able to memorize information that has been received, to the highest level which represents a person's ability to use knowledge to create unique ideas and apply the ideas to real world

applications. (Seddon, 1978) The cognitive domain starts with being able to **memorize** information without the content knowledge behind it. This would look like a student memorizing the names of a stretch routine that they do in the APE class. The next level is **comprehension**. This is the ability to understand the reasoning and meaning behind knowledge. This would look like a student knowing both the names of a stretch routine as well as the reasons stretching is important. The next level of the cognitive domain is **application**. This is the ability to use knowledge in new situations. An example of this would be a student knowing how to stretch before a pacific activity. After the application aspect, comes **analysis**. This level refers to facts and opinions. This would look like a student understanding that stretching before an activity is important for many reasons, and not just because it is what they have been told to do. The next level is **synthesize**. Synthesis is the ability to combine different ideas to get to a desired outcome. This could look like a student combining yoga and pilates techniques into their stretching routine. The next level is **evaluation**. This level of the cognitive domain pertains to the ability to come up with an idea based on a collection of other ideas and their values. This can look like a student creating a stretch routine that is most applicable and efficient for the skill they are trying to perform. As the levels increase, thinking becomes more complex. The levels build upon each other. (Hoque, 2017).

Below is a figure explaining the hierarchy of the cognitive domain. The “aspect” column starts with the lowest level of the dominant works it way up to the highest level. In the right column, there are keywords that can be used when thinking of ways to meet that aspect of the domain. The words may serve as a way of understanding the aspects of the domain when put into practice.

Level	Aspect	Keywords
1	Memorize	Knowledge, remember, recall
2	Comprehend	Understand, distinguish, predict
3	Apply	Demonstrate, interpret, develop
4	Analyze	Categorize, connect, differentiate
5	Synthesize	Combine, construct, develop
6	Evaluate	Judge, recommend, criticize

Framework for Cognitive Domain

Evidence based practices are interventions that often pertain to behaviors. Behaviors can refer to a student's conduct towards a situation, but it can also refer to any action that may not refer to a specific “positive or negative behavior”. When applying an EBP for the cognitive domain, we will be looking at the behavior as the students ability to present their understanding and development of the aspects in the cognitive domain.

For example, we can break down the domain and refer back to the rules of a game and a student's performance in the game. To play the sport you need to know the rules. This covers the bottom level of the cognitive domain known as the “remembering” part of the cognitive domain. A student needs to be able to remember the rules of a game to participate in it. Next, is understanding. Understanding the rules is the second step to remembering that they exist. You won't feel motivated to use the rules if you don't understand why they are implemented. Rules can be in place for safety, social, and strategic purposes. After understanding comes Application. The successful application of a rule is dependent on how well the rule was understood. The rules need to be followed for a game to be productive. Next, analyzing a rule allows an opportunity to look at your own performance of the rules and plays of a game. One might analyze by recognizing where the ball landed, how and fast it went. This then sets you up to evaluate. Evaluating is where you compare the results with what you understand the rule to be in the first place. A student can evaluate if they followed a rule and their performance in a game. Finally, once a student has mastered all of these aspects of the cognitive domain, they can move onto the final level which is creating. After a student has evaluated and determined the result of how they implemented the rule, they can create modifications to how to engage in it in the future.

Social Narrative

Social narratives are a book or series of pictures that use age appropriate language to explain social situations to students with ASD. Social narratives use pictures and descriptions of social situations that come from the perspective of the learner. They

typically describe social situations to students with ASD and can be used to help the student understand how to act in a social situation. To use social narratives to meet the cognitive domain, social narratives can be used to describe rules of a game and the importance of following rules. They can also describe how points are scored or other important aspects of fitness. Social narratives can also be personalized to students based on their interests. Social narratives can be a good tool in supporting students' cognitive development in Adapted Physical Education. Social Narratives meet the standard of being an Evidence Based Practice by the National Professional Development Center on ASD based on 17 single case design studies that showed social narratives as an effective intervention. Social narratives have been shown to support positive behaviors in preschool through high school age students as well as to improve the development in social skills and academics of preschool and elementary age students. (Kokina & Kern, 2010)

Connecting the Cognitive Domain to Social Narratives

In the creation of the social narrative, the teacher and student can work together to collaborate and practice using higher level thinking skills. Creating, the highest level skill, will be practiced in the creation of the social narrative. The conversations from creating the social narrative help build the cognitive domain. It is not solely about socialization but engagement in high levels of cognition. When the teacher is going through the social narrative they can practice and assess their students' development in the cognitive domain. (Jones & Love, 2012) The process of creating the social narrative with a student and going over it throughout the day will give teachers and students the opportunity to promote cognitive engagement in learning. (Chen & Ennis, 2004) Cognitive engagement in Physical education can be offered through a constructivist approach to education. A constructivist approach is a style of teaching that is based on meaningful engagement between the student and teacher. Creating a Social Narrative with a student will help the student to understand why a game may have specific rules or why a movement skill needs to be done in a specific way. It can also help them to understand the meaningfulness of organized sports and the importance of living a healthy lifestyle through physical activity. When a student is cognitively engaged with a social narrative, they are practicing their cognitive skills with an educator. (Zhu et al., 2009) Students also get the unique opportunity to support their cognitive development by building their knowledge, as well as analyze and evaluate how they would participate in an activity when comparing their actions and behaviors to those described in the social narrative. Social skills can also be a cognitive process for students with autism. Research

has shown that students with autism develop social skills differently than their neurotypical peers. Thus, a student with autism may learn social skills in a cognitive fashion and rely on their understanding of a certain social cue that is socially acceptable and remember when to present the social cue in a social situation.

How to use Social Narrative

Preparation

The first step in planning to implement social narrative is to identify the social situation that the social story is addressing. Some examples are

- the importance of following rules in a game
- the importance of proper preparation for a work out.

This is also the time to collect baseline data on students' understanding. Establishing an end goal for the social narrative will help guide in the creation of the social narrative as well. Assessing a baseline knowledge will allow teachers to use social narrative as a tool to assist in the development of the cognitive domain. Higher level aspects of the domain can also be used as baseline data like understanding or applying. Next it is important to figure out what kind of social narrative should be used. Using a social narrative that incorporates a student's interest can encourage students to be more engaged with the narrative itself. Different types of social narratives follow different criteria. Social Stories™ give explanations of social situations to learners in another person's perspective. When writing a social story, the steps of the social situation, or in this case the process used need to be addressed. For example, striking a stationary ball:

1. Place dominant hand over nondominant hand on the bat

2. Non Preferred side of body faces the pitcher with feet parallel
3. Hip and shoulder rotation during swing
4. Transfer body weight to front foot
5. Bat connects to the ball

Social Narratives work best when one sentence diresces a learner and two sentences give explanation. It is important to explain the steps that will be understood by the student in a way they will understand with appropriate vocabulary. Power Cards are another style of social narrative that can be used that incorporate a student's special interests. They have two parts. The first is a social scenario, and the second is a list of rules and behavioral expectations for that scenario. Both cards can include the students special interest. The next step in creating the social narrative book or cards is to ensure that the font style and size are appropriate and engaging for the student. Finally, it is important to identify what times a day the social narrative will be presented. Social narratives work best when presented directly before the scenario happens. If this is not able to happen, it can be beneficial to show the social narrative multiple times throughout the day.

Implementation

The social narrative should be presented to the learner in a distraction free space. When presenting the social narrative it is important to point out the core aspects that are being conveyed through the social narrative. For example, if the social narrative is explaining the rules of a game, it is important to emphasize these when presenting the social narrative. Checking for comprehension as well as understanding is important initially and periodically while using the social narrative. This conversation can support

Social narrative intervention as a way to meet aspects of the cognitive domain. The social narrative can be read by the student or the adult based on service needs. It is important that the student has access to the social natarive in the beginning of activities or a multiple times throughout the day. It is important for educators to create situations for the learner to also experience aspects of the social narrative in real life. Prompting and reinforcement can also be utilized when implementing social narratives.

Tracking

To monitor social narrative it is important to have collected baseline data that can then be compared to. If using a social narrative to help a student remember the rules of a game, a teacher can log how many times a student correctly follows the rules before and after the social narrative has been implemented. If social narrative is showing progress for the learner, then it should be continued to be implemented. When using social narrative as an intervention to support development in the cognitive domain, the specific aspects of the domain should be monitored like knowledge, comprehension, or application. If the student is not showing progress, the implementation of the social narrative should be analyzed. The message may not be clearly stated in a way the student understands, the social narrative may not get the learner's attention, or the social narrative may not be presented at appropriate times for the learner to absorb the information. If this is the case the proper fixes should be implemented.

Resources

Websites:

This first link will bring you to the AFIRM website where you can make an account to access modules that assist in the professional development of educators working with students with Autism. It also offers 30+ modules of specific EBP's that can serve as interventions to help meet an educational or behavioral goal.

https://afirm.fpg.unc.edu/afirm-modules

This next link is a pdf document that includes a breakdown of how to create a social story.

https://www.iidc.indiana.edu/irca/articles/writing-and-using-social-narratives.html

- This document from Indiana University Bloomington, includes a breakdown of how to create a social story in all environments.

Templates:

Social Narrative Tracing Form:

This is a fillable form to use when tracking data when implementing a Social Narrative. To use the form, open the link and then click "File", then "Make a copy" on Google docs. A copy of this form will be saved to your google doc account and you will be able to print or fill it out from there.

Guidebook Social Narrative Tracking form

Psychomotor Domain

The psychomotor domain pertains to learning connected to gross and fine motor skills. It also looks at learning in the aspects of physical functions, reflex actions, and interpretive movements. This domain also refers to motor learning and natural reflexes. The domain is broken down by levels of motor learning in a hierarchical model. The bottom of the model is **imitation**. This level describes the ability to imitate the movement of another. Once imitation is learned, the next level of the domain is **manipulation**. This level refers to the ability to perform a movement based on memory of a model or with a verbal cue of the movement. An example of this would be by asking a student to kick a ball and then they perform the action based on their knowledge and memory from the model that was provided. After manipulation is **precision**. At this level a student will be able to perform a movement without the need for visual or verbal prompting as well as be able to explain the aspect of the movement to another person. **Articulation** is the next level of the psychomotor domain. This refers to the students ability to combine two or more skills at a precision level. This would look like a student stopping a ball being passed to them with their foot then setting themself up to kick it into a goal. Finally, the highest level of this version of the Psychomotor domain is **Naturalization**. At this level a student will perform two or more skills in sequence of each other with little mental exertion. This is also colloquially known as second nature. At this level a student's knowledge and understanding of a skill movement is mastered and their ability to perform the skills correctly in a real life situation comes naturally to them.

Below is a figure explaining the hierarchy of the psychomotor domain. The "aspect" column starts with the lowest level of the dominant works it way up to the highest level. In the right column, there are keywords that can be used when thinking of ways to meet that aspect of the domain. The words may serve as a way of understanding the aspects of the domain when put into practice.

Level	Aspect	Kew Words
1	Imitation	Observing, copying, reproduce
2	Manipulation	Listening, remembering, reenact
3	Precision	Accuracy, proficiency, recall
4	Articulation	Adapting, combine, apply
5	Naturalization	Second nature, generalization, precision

Framework for Psychomotor Domain

When referring to the psychomotor domain we will be doing so in the framework of motor learning. Motor learning encompasses motor planning, the process the mind takes to plan for a motor movement, as well as producing the correct movements to complete a skill correctly. (Wolpert et al., 2001) When referring to the psychomotor domain we will be talking about a student's process of observing a new skill, to practicing the new skill on their own, the trial and error process, all the way to mastering the skill on

their own, and being able to use it in a game or activity. Imitation, the bottom level of the psychomotor domain, is met with video modeling since the student is presented with a model for them to imitate the behavior of. In the psychomotor domain, imitation is the base aspect students master before moving up to high levels of psychomotor development. Students with ASD will benefit from being provided a model through a video because it cuts back on the social aspect of imitation and provides a model in a format that can be more appealing to a student with ASD. (Kourassanis et al., 2015) Once the imitation level is met, students then have the opportunity to develop through the higher levels of the psychomotor domain.

Video Modeling

Video Modeling consists of showing a student a desired behavior in a video format, usually on an iPad or other device. Video modeling is most successful when the person performing the model is a peer. The visual demonstration of the skill gives the target student an example of how the skill can be done successfully. Video modeling along with prompting and reinforcement can give the student an opportunity to build their psychomotor understanding of a movement skill. The video itself can be a prompt as well. This can support students who have a hard time focusing on what a teacher is saying. It also offers a way to watch a skill be completed on a preferred viewing method. (Cardon & Wilcox, 2011) Modeling, the Evidence based practice that video modeling falls under, meets the criteria of being an EBP by the NPDC with fours single case designs as well as one group design study. Video modeling has been shown to be an effective intervention for play, vocational skills, and academic skill. (Sam et al., 2020b)

Connecting the Psychomotor Domain to Video Modeling

Video modeling has been shown to empower students to acquire motor skills in PE classes. (Trabelsi et al., 2022) Studies have shown that skills in physical education have improved after a video model has been implemented. (Wroth, n.d.) Video modeling offers the unique opportunity to learn motor movements in a more personal way, especially if the model is a peer close to the students watching the video model. (Kourassanis et al., 2015) Video modeling can support a students development in the psychomotor domain because it can break down a skill for them in a format that is familiar to them as well as having the added benefit of reducing the social pressures for students with autism. Another benefit of video modeling is its ability to support students' generalization of a skill. (Shrestha et al., 2013) For example, video modeling can teach the correct form and steps to kick a ball with the most force and control. The student can then use this skill in a game of soccer or kickball.

How to Use Video Modeling

Preparation

The first thing to plan when implementing video modeling is determining if the student has the prerequisite skills for what is displayed in the video model. For example, if this intervention is attempting to meet the skill of imitation, the lowest level of the psychomotor domain, the video model needs to be an activity or skill that the student can imitate. Along with prerequisite skills, the student also has to have the abilities to imitate behaviors off a screen. For learning motor skills this could be a student being able to hold a ball before throwing or being able to jump on two feet before teaching hopscotch. The

student will also need to have the ability to keep their attention on the screen long enough to watch the skill be presented. Prompting and positive reinforcement are also used in the implementation of video prompting. Video Modeling shows to be most effective when it can be implemented frequently. All service providers should be trained on how to implement the video modeling intervention. The individual in the video model should be a peer, but can also be a teacher or other educator as well. Ideally, the individual in the video should be familiar to the student. The individual in the video should also be properly trained in the skill that is presented. Finally, it needs to be determined if the video model will be used as a primer or a prompt. A primer demonstrates the behavior first and then the student will imitate the model, before getting a reinforcer. Prompting is when the video model is utilized after the student is instructed to perform a skill and offers a visualization of the target behavior. This is also followed up with a reinforcer.

Implementation

When implementing video modeling it is important that the correct type is chosen and the correct steps are followed. As stated before, using video modeling as a primer has different steps than implementing video modeling as a prompt. If the video model is being used as a prime, you first cue the learner, present the video model, then the student will model the skill. This can be used in a one on one or class setting. A good time to use this style is when introducing new skills. If the video model is being used as a prompt, you first wait for the student to attempt the target behavior, and if they do not present the skill correctly, the video model can then be shown. After the student performs the skill,

the skill should be reinforced. This style could be used in a game setting or during a time the student is practicing the skill. Over time thin the amount of reinforcements used.

Both of these implementation styles will support students' psychomotor development by offering an action they can imitate, which is an aspect of the psychomotor domain. Once imitation is mastered, students can develop higher skills in the psychomotor domain

Tracking

When it comes to monitoring progress of video modeling data collection should be done either by time sampling or event sampling. For event sampling, data is collected based on how often the skill is done correctly. Target skills should be clearly defined and understood by anyone collecting the data.Although video modeling can be used for many specific skills, to test if video modeling is supporting development in the psychomotor domain, specific aspects of the domain should be targeted when it comes to data collection. Video modeling will offer a situation for students with autism to imitate skills off of a screen. Data can be collected based on how they are improving in their skill or if students are able to imitate different skills being presented to them. Time sampling monitors the frequency of a target skill by recording if the student can perform it before or after watching the video model. If the student is showing progress using the EBP of video modeling, continuing this EBP would be beneficial. New skills can also be introduced. For example if a student gets down the skill of dribbling a basketball they can then start working on their skill of shooting.

Resources

Websites

This first link will bring you to the AFIRM website where you can make an account to access modules that assist in the professional development of educators working with students with Autism. It also offers 30+ modules of specific EBP's that can serve as interventions to help meet an educational or behavioral goal.

https://afirm.fpg.unc.edu/afirm-modules

This next link is a document that lists video modeling and social story phone/ tablet apps that can be used to help implement video modeling.

https://www.lcsc.org/cms/lib6/mn01001004/centricity/domain/21/socialstories.pdf

This final link is a product that includes an app that can be used for video modeling. It also has the added bonus of giving slow motion playback, so quick motor movements like kicking a ball can be seen frame by frame.

https://www.dartfish.com/mobile

Templates:

These are fillable forms to use when tracking data when implementing Video Modeling. To use the forms, open the link and then click "File", then "Make a copy" on Google docs. A copy of this form will be saved to your google doc account and you will be able to print or fill it out from there.

Event Sampling Data Collection

Duration Data Collention

Affective Domain

The affective domain refers to one's attitude towards learning and how learning is processed emotionally. This domain involves one's emotions, attitudes, and feelings. The manner in which we deal with things emotionally, such as feelings, values, appreciation, enthusiasms, motivations, and attitudes are examples of how the affective domains influences learning. The affective domain is broken up into five subdomains that are based in a hierarchical model. The model starts at the lowest level represented by **receiving**. This level is a student's ability to be present to information and receive information being shared with them. This takes listening skills as well as the ability to show an entire listening body. Students that master this stage will be able to show attentive listening by sitting quietly and watching the presenter. After receiving comes **responding**. This level builds on receiving, based on the students ability to respond to what they have listened to. This level takes a sense of cognition as well. Once a student can respond to information that has been presented to them, they can move onto the next level by showing their **values** and being able to set a level of value to information or a situation. This is where motivation is based. The next level of the Affective domain is **organization**. This level refers to the students ability to create a value system. This level creates the ability for the learner to put certain ideas or values over others. Finally the highest level of the affective domain is **characterization**. This level refers to the students ability to bring on their value system as part of their own character and decisions. The affective domain will present itself in the classroom through students' ability to stay on task and attentive during lessons (Hoque, 2017).

Below is a figure explaining the hierarchy of the Affective domain. The “aspect” column starts with the lowest level of the dominant works it way up to the highest level. In the right column, there are keywords that can be used when thinking of ways to meet that aspect of the domain. The words may serve as a way of understanding the aspects of the domain when put into practice.

Level	Aspect	Kew Words
1	Receive	Listening, Focus, Observing
2	Respond	Discussion, Participation, Sharing
3	Value	Applying worth, Considering, Assessing Values
4	Organize	Value system, Understanding Consequences
5	Characterization	Behavior, Internalized

Framework for Affective Domain

Attitude and values are an important part of physical education. According to SHAPE america, the 5th standard of physical education is “The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self expression and/or social interaction.” This standard runs parallel with the affective domain. Students who master the effective domain will value physical activity and the skills they are learning. Other aspects of physical education that are part of the affective

domain are good sportsmanship, respect for equipment, and self control. Mastering the affective domain will ensure students' values for lifelong fitness are accomplished after they leave school and are not getting physical activity provided to them as a class. (*National Physical Education Standards-SHAPE America Sets the Standards*, n.d.)

Token Economy

A token economy is a form of positive reinforcement where students earn tokens and use them to trade in for a prize at the end of a time period allocated to gaining tokens. (Kazdin & Bootzin, 1972) Token Economies are examples of operant conditioning where students receive tokens for displaying desirable behaviors. Tokens can be any object, and often are seen as fake money or a star chart. Like social Narratives, tokens and prizes can be created to incorporate the specific interests of students with autism, thus making them more desirable to collect. Tokens can be earned for different things such as staying on task, showing respect to others, or listening. In an APE class that can be earned by demonstrating being a team player, staying on task in APE lessons, or being safe with equipment. The idea behind a token economy is that students will be encouraged to perform desired behaviors to earn tokens to trade in for prizes. This also offers teachers a resource to remind students to stay on task when situations arise they may be an antecedent for undesirable behaviors. (Carnett et al., 2014) A token economy is an Evidence Based Practice that falls under Positive reinforcement. The National Professional Development Center on Autism Spectrum Disorders reviewed 43 single case design studies that determined it to be an intervention that provides teachers a tool to positively affect social, communication, and joint attention skills of those with ASD.

Connecting the Affective Domain to Token Economy

Token Economies provide incentives for students to develop their affective domain skills in the PE classroom. A student can receive information and understanding of the values and skills being taught to them, and will be rewarded in the token economy by presenting a positive response. Token economies have been shown to improve time on task and reduce negative behaviors in the classroom. A token economy based on values around good sportsmanship will encourage positive values and characteristics of students. (*2015 - SHAPE America - TheEssentialComponentsOfPhysicalEd.Pdf*, n.d.) Positive reinforcement has been shown to support joint attention in the classroom, which can support a students ability to receive phenomena and respond to it as well, which are the bottom two levels of the affective domain. (Hagopian et al., 1994)

Simply put, token economies offer a prize or incentive for students to receive information. They can also be rewarded for responding to the received information which will begin to inform one's own values and ideas around a topic, for example physical fitness. Once a value has been set, characterization can form and the student will hold the value of lifelong fitness which is one of the five frameworks of physical education according to shape america. Token economies can support intrinsic motivation by being the catalyst for students recognizing that their behaviors are self determined. (LeBlanc, 2004)

How to Use Token Economy

Preparation

Before implementing a token economy, base data should be collected to assess the number of times or duration a student performs the target behavior. Criteria for the intended behaviors should be clearly understood by all team members. The time the behaviors occur, the behavior or skill is, and how tohe student can show mastery of the skill or behaviors should be determined before implementing the token economy. When using the token economy to meet the imitation aspect of the psychomotor domain, educators should plan out the parts of the skill to be imitated. For example, if the skill is catching a ball, the aspect of that skill should be clearly defined. They should show a preparation phase where hands are in front and elbows are flexed, arms should extend in preparation for the ball to arrive, and the ball should be caught with hands only and not bounce off the body. It is best to create three or more target criteria of a behavior or skill to determine if the behavior or skill is being done correctly. Then tokens as well as reinforcers should be chosen.

Reinforcers should be something the student choses and enjoys. Specific behaviors should be modeled for students so they know what is being looked for. A bank can also be set up for students to keep their tokens in so they do not get lost. Star charts can also serve as a system for a token economy. It should be decided how many tokens will be given out as well as how many tokens equals a reinforcer. Reinforcers should be given within a time frame that is applicable to a student's desire.

Implementation

The first step in introducing the token economy to students is to describe the different components including the skill that is being learned, how many tokens equals a prize, and the different prizes/reinforcers that are offered. When the student displays the target behavior or skill, they are given a ticket. It is important to explain to the student why they are receiving the ticket. When it comes time for the student to pick a reinforcer, they should be able to choose from things that they prefer to have or do. If a student chooses a prize like “5 minutes of Youtube time” the student should be able to decide what they want to watch as long as it is school appropriate. To keep the interest of students, reinforcers and prices can be changed from time to time. Tokens should be used consistently in all class sessions. Over time tokens can be faded as a reinforcement when the skill is mastered.

Tracking

To monitor if a token economy is successful, it is important to collect data before and during implementation. Using data sheets, collect data on the amount of times target behavior is exhibited. It is also important to review data with all service providers and adjust reinforcers if needed. If the student is showing progress using the token economy, new skills can be added. If the token economy isn't showing progress, the behaviors may not be well defined or not measurable or observable. The skill may be too difficult. These things can be addressed, adjusted, and reimplemented. Data collection will show progress and if the token economy is successful.

Resources

Websites

This first link will bring you to the AFIRM website where you can make an account to access modules that assist in the professional development of educators working with students with Autism. It also offers 30+ modules of specific EBP's that can serve as interventions to help meet an educational or behavioral goal.

https://afirm.fpg.unc.edu/afirm-modules

This next link is to many different Token Economy templates created onTeachers Pay Teachers, a great resource for educators where they can share and sell their lesson plans and ideas to other educators. Some are free and others range from $3-$10.

https://www.teacherspayteachers.com/Browse/Search:token%20economy%20editable

Templates:

These are fillable forms to use when tracking data when implementing Token Economies. To use the forms, open the link and then click "File", then "Make a copy" on Google docs. A copy of this form will be saved to your google doc account and you will be able to print or fill it out from there.

Event Sampling Data Collection

Duration Data Collention

Conclusion

This handbook focuses on the value of EBP's and how they can support students with Autism. It also helps bridge the gap between theories such as the Domains of Learning into their practice through implementing EBP's. This resource can support all educators, and it has a strong focus on Autism Spectrum Disorder and Adapted Physical education. Students with Autism can benefit from educational practices, such as EBP's that have been tested and determined to work in supporting their development. Adapted Physical Educators can use EBP's to help adapt physical education curriculums to the needs of those with autism. Since adapting lessons and curriculum is a main principle of APE, EBP's can serve as a great resource in creating lessons.

In creating this guidebook I thought about the many tasks educators have at hand and how being asked to use scientifically based practices and meeting learning domains can seem like a big chore when mixed in with the day to day of teaching.

I took two concepts that I studied in my undergrad and grad school and found connections between the both. The Domains of Learning, Cognitive, Psychomotor, and Affective are going to be developed by students in many ways, but when teachers can use Evidence Based Practices to help build development within the domain, teachers can also use data to track where their students are at. Literature and other resources were used when coming up with how to connect the Domains to EBP's.

Social Narrative is connected to the domain of Cognition. The cognitive domain focused on the process of knowledge and understanding. Social Narratives give a break down of social situation and how someone with Autism can navigate them. Social

narrative can help break down cognitive processes and even meet the highest level of this domain, known as “create”. The psychomotor domain was connected to the EBP of Video modeling. Video Modeling is a specific type of modeling that uses videos presented on a device to present intended outcomes for students. In APE, this can be especially helpful for when teachers are presenting motor movements to students with Autism. Video modeling can help meet aspects of the psychomotor domain such as imitation, the ability to recreate a movement, and precision, the ability to recreate a movement and understanding the small changes that need to be made to do it successfully. The Affective domain is connected to Token Economy, a style of positive reinforcement. Token economies can present themselves in many forms but at their base, they are a system to track positive behaviors where students can collect tokens to turn in for a prize of their choosing. Token economies are a form of operant conditioning where students are rewarded for positive behaviors, in this case specifically pertaining to the attitude and behaviors. Token economies can support development in certain aspects of the Affective Domain such as listening and responding.

EBP’s are great resources for teachers to help meet many behavioral and educational needs of their students with Autism. Being scientific based in nature, they are a great way to collect data of students' development through the domains of learning. That being said, not all students will respond to EBP's the same. This is when data collection is key. If it is determined that an EBP is not working to change the behavior of s student of show development though the domains of learning, changes within the EBP or other EBP’s can be implemented. The goal for all special educators is for students with

autism to have the ability to fully participate in their education. This guidebook offers a resource to APE teachers, special educators, and other educators to help their students with Autism meet the domains of education through Evidence Based Practices.

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