

A Preliminary Investigation of Physical Education Teachers' Perceptions on Pre-Teaching Students with Visual Impairments

Cristina Iannacchino Lauren J. Lieberman Pamela Beach Melanie Perreault

Abstract

Students with visual impairments (VI) are often left out of physical education classes because they are not provided with appropriate accommodations and instructional strategies by the teacher. Pre-teaching is a recommended method of instruction wherein students with visual impairments are exposed to a lesson prior to whole class instruction. However, little is known about the use of pre-teaching within the context of physical education. Thus, the purpose of this study was to investigate physical education teachers' experiences using pre-teaching with students with visual impairments. Thirty-nine physical education teachers (ages 23–67 years) completed an electronic survey that measured their demographics and experiences with pre-teaching students with visual impairments. After analyzing the data, four major themes were found regarding pre-teaching: communication, resources, preparation, and time. Participants stressed the importance of communicating with both the student with a visual impairment and other professionals who serve the student. Furthermore, participants shared that they need more resources and time for pre-teaching students with visual impairments. The participants also expressed a lack of exposure to pre-teaching during their teacher preparation programs. Recommendations include increased education or professional development on pre-teaching and the use of self-contained classes to pre-teach students prior to general education classes.

Introduction

As of 2019, there are 547,083 children ages 0–17 with visual impairments (VI) in the United States (The American Foundation for the Blind, 2020). This statistic includes various levels of VI, from those who have difficulty seeing while wearing glasses to those who are blind. It is important for children with VI to participate in physical education (PE) and learn motor skills to lead an active lifestyle. According to the 2019 National Survey of Children's Health, only 23.16% of children and 12.50% of adolescents with VI were meeting the recommended 60 minutes of physical activity time per day (Haegele et al., 2019). This is a concerning statistic, as inactivity can lead to obesity and other health concerns. Students with VI are often marginalized and have difficulty accessing a meaningful PE experience (Lieberman et al., 2013). Without these experiences, students with VI are unable to develop their motor skills and physical activity skills (Lirgg et al., 2017). The inability of students with VI to develop motor and physical activity skills could be based on the PE teacher's lack of knowledge of instructional strategies to teach and incorporate students with VI into their classes (Greguol, et al., 2015; Lirgg et al., 2017). With properly prepared PE teachers, students with VI can learn critical motor and physical activity skills and will be more likely to participate in their PE classes and become lifelong movers (Lirgg et al., 2017).

Students with VI are entitled to receive adaptive physical education (APE) services (Individuals with Disabilities Education Act, 2017). APE is a service that students with disabilities are entitled to receive, and it can be received in a self-contained setting, modified setting, or general physical education setting (IDEA, 2017). To make PE content accessible, PE teachers can use pre-teaching during APE services: "Pre-teaching is an instructional strategy in which students are prepared for new content by providing them with instruction prior to the whole class instruction" (Smets & Struyven, 2018, para. 7). According to Conroy (2016), pre-teaching is a period in which key concepts and terminology are introduced so that the student can build on this knowledge during the class period. For example, if the unit of instruction is basketball, the student must learn about the dimensions of the court, various positions, scoring, and rules of the game before the unit begins. The student may have never held a basketball before, so pre-teaching could include the student understanding the texture and size of a basketball; the height, size, and dimension of the basket, net, and backboard; and the different lines on the court, such as the foul line and three-point line.

Conroy (2016) states there is a three-step process to pre-teaching, which are: planning, instruction, and evaluation. When planning, it is important to choose the

content that is new to the student and make it accessible in the manner in which the student prefers to be instructed. Some students may prefer auditory cues, tactile modeling, braille, tactile boards, or hand over hand instruction (Lieberman et al., 2019). It is important to communicate with all teachers and professionals that serve the student for physical activity. Effective communication also helps determine a time when pre-teaching can take place. The next step is instruction, wherein the teacher of students with VI or the PE teacher provides the student necessary information before the whole-class instruction. This could involve introducing the student to new equipment, vocabulary, or concepts as well as the rules of the game. The student should have an opportunity to practice during this time. The last step is evaluation, wherein the teachers evaluate their effectiveness of using pre-teaching and reflect on their instruction. Furthermore, this is when the teacher can evaluate their student's progress from the pre-teaching lesson to the whole class setting (Conroy, 2016).

The recommendations above make sense; however, little is known about the benefits or uses of pre-teaching in the PE setting. Thus, the purpose of this study is twofold: (1) to investigate the pre-teaching experiences of PE teachers with students with VI and (2) to determine how PE teachers include pre-teaching in their lessons. This information can inform PE teachers who instruct students with VI.

Methods

Research Questions

The current study was guided by five research questions:

1. Are physical education teachers pre-teaching their students with visual impairments?
2. Do physical education teachers know how to pre-teach students with visual impairments?
3. Who teaches physical education teachers to pre-teach students with visual impairments?
4. What pre-teaching strategies do teachers perceive as helpful for teaching students with visual impairments?
5. How do physical education teachers pre-teach?

Participants

Thirty-nine PE teachers participated in this study. The teachers were recruited at the New York State Association of Health, Physical Education, Recreation, and Dance Conference, through Facebook, and by Teachers of Students with Visual Impairments

Table. Participant demographics.

Gender	Male: 10 Female: 29
School setting	Rural: 13 Urban: 7 Suburban: 19
Age	<i>M</i> = 43 years Range: 23–67 years
Years of teaching experience	<i>M</i> = 15 years Range: 1–45 years
Highest level of education	Bachelors: 5 Masters: 28 Advanced Certificate: 5 Terminal Degree: 1
Grades taught	K–5: 32 6–8: 28 9–12: 26 Other: 13
Training in adapted physical education	Yes: 36 No: 3
Taught a student with a VI	Yes: 37 No: 2
Learned to pre-teach a student with a VI	Yes: 26 No: 13

sharing the study with PE teachers with whom they work. A breakdown of participant demographics is provided in the Table.

Instrument

The authors of the current study developed a survey to measure the experiences of PE teachers using pre-teaching with students with VI. Content validity was assessed by a panel that included two motor development specialists, one professor who specializes in visual impairments, one adapted physical educator employed in visual impairments, and two people who are blind. Survey questions were created and reworked within the panel to ensure the questions were accurate and formatted to answer the research questions. At the beginning of the survey, pre-teaching was defined for all participants using the definition provided by Smets and Struyven

(2018) to ensure their understanding of the term. The survey questions included demographics (e.g., gender, years of teaching experience), teachers' perceptions of the benefits of pre-teaching, teachers' experiences with pre-teaching, and teachers' confidence with pre-teaching. Content validity was established by an expert panel consisting of one professor who specializes in VI and two people who are blind. Revisions were made based on feedback from the expert panel. The final survey consisted of 22 questions (20 closed-ended and two open-ended) and was converted into an electronic form using Qualtrics. The questions can be found in the appendix at the end of this article.

Procedures

After receiving approval from the Institutional Review Board, the survey was distributed to PE teachers across the United States via email and posting on social media. After giving consent, participants completed the survey, sharing their experiences related to pre-teaching PE to students with VI.

Data Analysis

A frequency analysis was used to examine the quantitative data from the survey. Data collected from the open-ended questions were analyzed using an interpretive thematic analysis (Braun & Clarke, 2006). In a thematic analysis, data are identified, analyzed, and reported based on the patterns and themes found within the data, (Braun & Clarke, 2006). Two researchers who are specialists in adapted physical activity and disability sports, independently coded the data for major themes and supporting quotes to fully understand the lived experiences of the teachers (Taylor et al., 2015). Braun and Clarke's (2006) suggestions on completing the thematic analysis were utilized to ensure that the thematic analysis was managed in a theoretically and systematically sound way.

Results

In this study, a validated questionnaire related to pre-teaching students with VI was distributed electronically to PE teachers. When the PE teachers were asked who taught them to pre-teach, 49 responses were collected, as teachers could select multiple responses. To this, 23% (9) of the participants reported that the teacher of the student with VI taught them to pre-teach, and 41% (16) reported that an APE teacher taught them to pre-teach. Only 2.5% (1) of the participants reported another PE teacher in their school taught them to pre-teach, and 36% (14) reported that no one had taught them to pre-teach. For the 23% (9) of the participants who responded "Other," their responses included college professors and the internet.

When the participants were asked if they had ever used pre-teaching with students with VI, 39 responses were collected, and 72% (26) of the participants reported that they had. The participants were then asked to specify all professionals who pre-teach for the students with VI at their schools, and 59 responses were collected, as participants were able to provide multiple responses. To this, 69% (25) of the participants reported that they do the pre-teaching themselves, whereas only 18% (7) of the participants stated that the teacher of the student with a VI, an orientation and mobility specialist, and/or a paraeducator performed the pre-teaching. Moreover, 15% (6) of the participants stated that another PE teacher or APE teacher performed the pre-teaching, and 10% (4) of the participants stated that some "other" person performed the pre-teaching. When asked to specify the "Other" person, 2.5% (1) of participants shared that the parent of the student with VI provides their child with the pre-teaching outside of school.

The participants were asked how often they pre-teach their student with VI and how far in advance they pre-teach new content before the start of a new unit. Thirty-five responses were collected, and 10% (4) of the participants stated that they pre-teach their students every day, 42% (15) stated before the start of a new lesson, 13% (5) stated weekly, and 28% (11) stated rarely. When asked how far in advance they pre-teach, 27 responses were collected, and 23% (7) of the participants stated that they pre-teach one day before the lesson, 10% (4) stated two days before the lesson, another 10% (4) stated three days before the lesson, and 7% (3) stated five days before the lesson. Only 5% (2) of the participants stated that they pre-teach the day of the lesson. Thirteen percent (5) of the participants stated that they begin pre-teaching a new unit one week before the first lesson, and 5% (2) stated that they begin two weeks prior.

The participants were further asked what factors contributed to their decision to determine the length of time needed to pre-teach and 81 responses were collected, as participants were able to provide multiple answers. To this, 2.5% (1) of the participants specified that the amount of pre-teaching needed depended on the student's prior knowledge of the content and unit being presented, 64% (25) percent of the participants stated that the child's previous experience contributed to this decision, and 38.5% (15) of the participants reported that their time or schedule is a factor. The content of the unit (38.5%), space (20.5%), equipment (18%), and personnel (10%) were also factors. Eighteen percent (7) of the participants selected "Other," which included the student's ability to gain knowledge and participate in class, the student's present skill ability, the number of students in the class, the knowledge of the paraeducators, and how often the teacher sees their student.

When asked to share their perceived benefits of pre-teaching, 122 responses were collected as the participants could select multiple answers that applied. To this opportunity, 72% (28) of the participants indicated that pre-teaching helps student preparation, 87% (34) indicated that pre-teaching helps student confidence, 62% (24) indicated that pre-teaching makes teaching easier for the teacher during class time, and 82% (32) indicated that pre-teaching helps the student know what to expect for that class period. Ten percent (4) of the participants selected “Other” and shared that pre-teaching has the benefit of increasing the student’s chances of success; allows for increased preparation of the student, teacher, and paraeducator; and allows for the required equipment to be ready and usable. Last, 2.5% (1) of the participants shared that pre-teaching is the best time to introduce adapted equipment, modifications, and accommodations for the student.

The participants were asked to share multiple responses to the perceived challenges of pre-teaching, and 46 responses were collected. Of these, 56% (22) of participants indicated a lack of time, 10% (4) indicated not knowing *how* to pre-teach, 23% (9) indicated not knowing *what* to pre-teach, and 10% (4) indicated not knowing *when* to pre-teach. Moreover, 5% (2) of the participants shared that they do not believe it is their job to pre-teach, and 13% (5) selected “Other,” which included a lack of staffing, large class sizes, and a lack of time spent with the student with VI.

The participants were asked to rate their perceived confidence of being able to pre-teach students with VI, and 38 participants responded. To this, 34% (13) of the participants reported that they perceived themselves to be very confident, 46% (18) perceived themselves to be somewhat confident, 13% (5) perceived themselves to be somewhat not confident, and 5% (2) perceived themselves to be not confident at all. The participants were then asked to rate how much pre-teaching helps improve the confidence levels of students with VI.. In this case, 59% percent (23) shared that pre-teaching helps boost confidence levels “a lot,” and 33% (13) of teachers shared that it “somewhat” helps boost confidence levels. No participants selected “very little” or “not at all.”

When the participants were asked to provide multiple answers on how they could improve their pre-teaching of students with VI, 170 responses were collected. Of these, 19.4% (33) of the participants indicated professional training, 16.4% (28) indicated resources, 17.06% (29) indicated experience, and 11.1% (19) indicated teacher preparation programs. Moreover, 12% percent (21) indicated the teacher of students with visual impairments, 14.71% (25) stated the adapted PE teacher, and 8.24% (14) stated the orientation and mobility specialist. If all of these professionals knew how to pre-teach then, there would be more pre-teaching and more consistency.

Only 0.59% (1) of the participants selected "Other," indicating that assistance could come from experts in the field.

Qualitative Findings

Qualitative findings were analyzed from the two open ended questions: 1) Do you have any other comments or experiences you would like to share regarding pre-teaching students with visual impairments? 2.) Are there tools, education, or experiences that you would recommend? From these findings, four themes emerged: communication, resources, preparation, and time.

Discussion

Communication

Four participants emphasized the importance of communicating with the student with VI. Communication with the student correlates to Conroy's first recommended step when pre-teaching: planning (Conroy, 2016). One participant stated that communicating the size and features of the gymnasium to the student ensured comfort and safety for them, because a "basic human need is to know you are safe; by knowing their space more comfortably, they will be more confident." Another shared,

...remember that students with VI may have no experience, knowledge, or ability to conceptualize certain concepts, especially if blind from birth. Ask them lots of questions about their previous knowledge relevant to the activities and concepts you are teaching. Describe things in detail with lots of specifics to map out a picture of what is being taught.

Furthermore, one participant reported that with communication, "I, the student, and the para feel prepared." Three participants reported the importance of communicating with paraeducators and other professionals. PE teachers found that pre-teaching depended on how the "paraeducator understands the information, as it varies unit to unit, day by day." Talking with the paraeducator will allow the PE teacher to ensure that they understand the lesson's content. One participant shared their perceived importance of communication as "networking with experts in the area that I may not have much knowledge in or of." This communication allows the PE teachers themselves to be prepared with the necessary knowledge to pre-teach students with VI.

Communication can be beneficial so that all teachers are on the same page and work in the best interest of the student. Every child is different and at a different point in their learning. Determining prior experience and knowledge will help skill

progression and development by avoiding repetitive teaching (Conroy, 2012). Students should communicate with their teachers, and all teachers serving the student with VI should also be in communication with one another. This communication can improve all three stages of the pre-teaching process, including the planning, instruction, and evaluation periods. The PE teacher can ask questions and receive helpful ideas or accommodations from the APE, parents, the teacher of the student with VI, or the orientation and mobility specialist (Conroy, 2016). Furthermore, if the PE teacher is facing any challenges, communication with their team of professionals can provide plausible solutions as the teacher is evaluating the effectiveness of their pre-teaching lesson.

Resources

Twenty-eight participants reported that they desire more resources regarding pre-teaching and teaching children with VI. Participants reported that resources are important when preparing a teacher to know how to pre-teach. One participant reported that they were wondering where the “Sport Court” resource went from the American Printing House for the Blind. This could mean that resources that were once easy to access are now harder to find or may no longer be available. Another stated that they “review Lauren Lieberman [an expert in APE for individuals with VI] resources on working with kids with VI.” Out of the 39 participants in this study, only 18% stated that equipment is a factor that contributes to their decisions to pre-teach. This is promising; however, not all teachers have the same equipment and resources. Also, these findings address the issue of equipment availability. If teachers are not pre-teaching with the equipment they will use in the lessons, the student may lack valuable information that they need to succeed. PE teachers should consult with the APE teacher, orientation and mobility specialist, and teacher of the student with VI to identify APE equipment that can be utilized during pre-teaching lessons and full-class instruction. Adapted equipment can improve learning experiences for students with VI (Ball et al., 2021). Often, students with VI may only need a ball with bells in it or larger equipment that is a distinct color to be successful in physical education. It is important for PE teachers to explore online equipment catalogs and acquire equipment that will help students with VI and all their students be successful.

Preparation

Based on data collected in the study, 84% (33) of the participants reported a need for more preparation in APE and pre-teaching through training, resources, experience, teacher preparation programs as well as collaboration with the teacher

of a student with a VI, the APE teacher, and the orientation and mobility specialist. As found in the present study, 64% of participants pre-teach; however, 23% rarely pre-teach. The participants typically pre-teach, but many participants reported inadequate teacher preparation on pre-teaching or teaching students with VI in general. One participant reported not learning about pre-teaching in their undergraduate degree in PE, and another stated "I worked with one student with VI, but they were only given APE in an individual setting. I would believe that pre-teaching the skills would be beneficial if applied correctly."

One participant expressed their belief that their ability to use pre-teaching would be much more beneficial if the student had an APE class. They also expressed a need for APE as "the student with VI in a High School mainstreamed class with over 40 students in a combined class is an accident waiting to happen." Some participants even stated that they believed it was the APE teacher's role to pre-teach the students and that it was not their job, as a general physical educator, to pre-teach.

The need for more preparation is supported by Conroy and Lieberman (2013) and Conroy (2012), in which inadequate teacher preparation was put forward as a significant barrier to instructing students with VI. Professional preparation programs seldom prepare teacher candidates to instruct students with VI because of the low chances that a student with a VI will be in a class (Conroy, 2012; Linsenbiller et al., 2018). However, PE teacher candidates must still be prepared to instruct any students who may be in their classes, including students with VI. Teacher preparation programs must include pre-teaching in the curriculum and how it can be used for students with VI and other disabilities. The three-step pre-teaching process of planning, instruction, and evaluation, which is outlined in an article by Conroy (2016), should be taught to pre-service PE teachers so they have it in their professional tool kits. With proper teacher preparation, it is more likely that teachers will increase their self-efficacy in pre-teaching their students with VI, which will lead to more effective pre-teaching.

Time

Twenty-two participants reported that time was a large factor affecting their ability to pre-teach. Fifteen participants reported that time was a key factor to pre-teaching, and 11 reported that they rarely have time to pre-teach their students with VI. One participant stated that they "only see their students with VI once a week." Another PE teacher reported, "I have 19 other students along with my visually impaired student. This is a class of 11-12 grade students that do not know the visually impaired student. My time is limited with the visually impaired student." A third PE teacher stated that, "Being an itinerant teacher working with students 1-3

times a week, the amount of pre teaching is challenging because of the minimal amount of time we have with students to effectively pre teach.” The participants understand that pre-teaching is important; however, time is a substantial barrier to its use.

In a study by Conroy and Lieberman (2013), teachers reported limited time for pre-teaching planning and a lack of time to pre-teach students with VI outside of class. Moreover, the PE teachers reported a lack of time per week to work with the students with VI. Itinerant teachers reported that they only see their students with VI one to three times per week. Hence, time is limited to be able to effectively pre-teach and teach the lesson. Likewise, the participants in the current study indicated not having time to pre-teach their students with VI during class. When students with VI are in general PE classes, it is hard for the PE teacher to provide one-on-one pre-teaching instruction. Thirty-three participants also reported a desire for more training and collaboration between professionals; however, allocating time for training and collaboration was a large barrier.

Implications

Two participants reported that the safety of the educational setting was a large consideration for instructing students with VI and that they felt they could be a much more effective teacher and utilize the strategy of pre-teaching if they were able to instruct their student in a self-contained setting rather than in a general PE class. A self-contained class could also solve the reported problem of not having enough time to pre-teach, as a self-contained class sets aside time in which the teacher can pre-teach the student the content before the start of a new unit in the general PE class (Conroy, 2016). The student should still participate in their general PE class to the greatest extent possible.

Having a self-contained class period to pre-teach could be a great means by which to integrate the student into the general PE class so that they are learning alongside their peers. Pre-teaching content, including specific vocabulary or skills, during a self-contained class will help students have a higher retention rate of the pre-taught content during the general PE class (Conroy, 2012). PE teachers should advocate for their students with VI to receive instruction in a self-contained class to ensure pre-teaching time. To do this, PE teachers should bring data from assessments to Individualized Education Plan (IEP) meetings that support the students’ needs for this valuable instructional setting (Conroy, 2012). Having knowledge of the IDEA mandate and assessments, PE teachers can provide this supporting information at IEP meetings to advocate for their student to receive the necessary

service (Lieberman & Conroy, 2013). By engaging in pre-teaching prior to the lesson, a student with VI can be successfully included in a general PE class with their peers.

Limitations

This study had a limited number of participants, which means that it cannot be generalized to a larger population of physical education teachers. Seventy-nine participants started the survey, but only 39 completed it in its entirety. It could be assumed that some of the participants did not understand the term, pre-teaching. This was an electronic study, so it may not have been accessible to everyone. It should be noted that this study was only filled out by physical education teachers. It is possible that teachers of students with visual impairments, orientation and mobility specialists, paraeducators, or special education teachers may have been leading the pre-teaching.

Conclusions

In conclusion, PE teachers have reported that they are aware of the benefits of pre-teaching students with VI and that pre-teaching enhances a student with a visual impairment's ability to learn and retain physical activity skills. Through this study, communication, resources, preparation, and time were reported as key factors that affect PE teachers' abilities to pre-teach students with VI. As supported by the literature, effective communication between the teachers and the student with VI will result in more success with pre-teaching. In addition, it was found that proper equipment and effective teacher preparation programs would provide PE teachers with the knowledge and resources to both pre-teach and provide more effective instruction. With effective pre-teaching, PE teachers can more effectively educate their students with VI more effectively to acquire the skills that they need to become lifelong movers.

References

- Ball, L., Lieberman, L. J., & Haibach-Beach, P. (2021). Dignity of risk in PE for students with VIs. *EC Ophthalmology*, 12(3), 57-59. <https://doi.org/10.1080/07303084.2021.1936872>
- Ball, L., Lieberman, L.J., Haibach-Beach, P., Perreault, M., & Tirone, K. (2021). Bullying in PE of children with visual impairment: A systematic review. *British Journal of Visual Impairment*, 40(3), 513-529. <https://doi.org/10.1177%2F02646196211009927>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://psycnet.apa.org/doi/10.1191/1478088706qp063oa>

- Conroy, P. (2012). Supporting students with VIs in physical education. *Insight: Research and Practice in Visual Impairment & Blindness*, 5(1), 3-10.
- Conroy, P. (2016). Building background knowledge: Pre-teaching PE concepts to students with VIs. *Journal of Blindness Innovation and Research*, 6(2). <http://dx.doi.org/10.5241/6-80>
- Greguol, M., Gobbi, E., & Carraro, A. (2015). Physical activity practice among children and adolescents with visual impairment-influence of parental support and perceived barriers. *Disability and Rehabilitation* 37(4). <https://doi.org/10.3109/09638288.2014.918194>
- Haeghele, J. A., Aigner, C., & Healy, S. (2019). Prevalence of meeting physical activity, screen-time, and sleep guidelines among children and adolescents with and without VI in the United States. *Adapted Physical Activity Quarterly*, 36(3), 399-405. <https://doi.org/10.1123/apaq.2018-0130>
- Haeghele, J. A., & Lieberman, L. J. (2019). Movement and visual impairment: Research and practice. In J. Ravenscroft (Ed.), *Routledge Handbook on Visual Impairment* (pp. 189-202). Routledge.
- Lieberman, L.J., & Conroy, P. (2013). Training of paraeducators for physical education for children with visual impairments. *Journal of Visual Impairment and Blindness*, 107(1), 17-29. <https://doi.org/10.1177/0145482X1310700102>
- Lieberman, L. J., Lepore, M., Lepore-Stevens, M., & Ball, L. (2019). Physical education for children with visual impairment or blindness. *Journal of Physical Education, Recreation and Dance*, 90(1), 30-38. <https://doi.org/10.1080/07303084.2018.1535340>
- Lieberman, L. J., Ponchillia, P., & Ponchillia, S. (2013). *Physical education and sports for people with visual impairments and deafblindness: Foundations of instruction*. AFB Press.
- Linsenbigler, K., Petersen, S., & Lieberman, L. (2018). Barriers to physical activity for children with visual impairments: How far have we come and where do we still need to go? *Palaestra*, 32(1), 26-31.
- Lirgg, C. D., Gorman, D. R., Merrie, M. D., & Shewmake, C. (2017). Exploring challenges in teaching physical education to students with disabilities. *Palaestra*, 31(2), 13-18.
- Smets, W., & Struyven, K. (2018). Realist review of literature on catering for different instructional needs with pre-teaching and extended instruction. *Education Sciences*, 8(3), 113. <https://doi.org/10.3390/educsci8030113>
- The American Foundation for the Blind. (2020, September). *Statistics about children and youth with vision loss*. <https://www.afb.org/research-and-initiatives/statistics/statistics-blind-children#:~:text=According%20to%20the%202019%20American,of%2018%20in%20the%20U.S>
- Taylor, S. J., Bogdan, R., & DeVault, M. (2015). *Introduction to qualitative research methods: A guide-book and resource*. John Wiley & Sons.

Appendix

For the purpose of this survey, pre-teaching is defined as an instructional strategy in which students are prepared for new content by providing them with instruction prior to the whole class instruction (Smets & Struyven, 2018). For students with visual impairment, this means being taught content individually before participating in general physical education class (Iannacchino et al., in press).

- 1. Are you a Physical Education Teacher?** Yes/No
- 2. If yes, do you have any training in adapted Physical Education (e.g., certification, endorsement, concentration, minor)?** Yes/No
- 3. Have you taught a student with a visual impairment?** Yes/No-No end the survey
- 4. Age:** fill in
- 5. Gender:** Male, Female, Nonbinary, Prefer not to say
- 6. Highest level of education:** Bachelors, Masters, Advanced Certificate, Terminal Degree
- 7. Years of Teaching:** fill in
- 8. Grades Taught:** K-5, 6-8, 9-12, Other: fill in
- 9. School Setting:** Suburban, Urban, Rural
- 10. Have you been taught to pre-teach students with visual impairments?** Yes/No
- 11. Who taught or teaches you how to pre-teach?** -Teacher of Student with VI -APE teacher -Another PE teacher -No one -Other (write in)
- 12. Do you currently or have you pre-taught your students with visual impairments?** Yes/No
- 13. If yes, who does the pre-teaching for your students who are visually impaired? (Select all that apply):** -You -The teacher of student with visual impairments -The orientation and mobility instructor -The paraeducator- Another PE or APE teacher -Other (write in)
- 14. How often do you pre-teach students with visual impairments?** -Every class-At the start of a new lesson-Weekly-Rarely
- 15. How many days/weeks BEFORE the new unit do you usually pre-teach the lesson?** -Days: (write in)-Weeks (write in)
- 16. What contributes to your decision about the length and time of the pre-teaching sessions? (Select all that apply.):** -Child's previous experience -Time/schedule -Space-Equipment -Personnel -Content of the Unit -Other: write in
- 17. Select what you think to be the benefits of pre-teaching in P.E (Physical Education) (Physical Education).?** -Student is prepared-Student

will feel more confident -Easier for teacher during class time -Student knows what to expect -Other (write in)

- 18. Select any challenges related to pre-teaching in P.E.?** -Not enough time-Do not know how -Do not know what to pre-teach -Do not know when to pre-teach -Do not think it is their job-Other
- 19. How confident are you with your confidence and knowledge of how to pre-teach students with visual impairments?** -Very confident -Somewhat confident -Somewhat not confident -Not confident
- 20. How can teachers become better prepared to pre-teach students with visual impairments? (Select all that apply):** -Trainings-Resources-Experience -Teacher Preparation Programs -Teacher of the Student with Visual Impairment -Adapted Physical Education Teacher -The Orientation and Mobility Specialist -Other (Write in)
- 21. How much do you think pre-teaching students with visual impairments improves their confidence for the upcoming unit?** -Very confident-Somewhat confident -Somewhat not confident -Not confident
- 22. Do you have any other comments or experiences you would like to share regarding pre-teaching students with visual impairments?** Write in
- 23. Are there tools, education, or experiences that you would recommend?** Write in

Cristina Iannacchino, M.S., Physical Education Teacher, Shoreham Wading River Central School District; **Lauren J. Lieberman**, Ph.D., Distinguished Service Professor, State University of New York at Brockport; **Pamela Beach**, Ph.D., Professor, State University of New York at Brockport; **Melanie Perreault**, Ph.D., Associate Professor, State University of New York at Brockport.

Corresponding Author: Melanie Perreault, email: mperreault@brockport.edu.

Published online 22 July 2024