The Current Status of Physical Education at Schools for the Blind in the USA

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INTRODUCTION

Schools for the blind provide well-rounded education programs that include services specifically designed for individuals with visual impairments (e.g., orientation and mobility). However, at this time, little is known about current physical education practices at schools for the blind from a research perspective. Therefore, **the purpose of this study was to determine the current status of physical education at schools for the blind in the U.S.**

METHODS

Instrument

A questionnaire was utilized to collect data for this study. The questionnaire was developed with four subsections: (a) teacher characteristics (7 questions), (b) teaching practices (15 questions), (c) student population (8 questions), and (d) facilities (5 questions). The purpose of the questionnaire was to explore physical educators' experiences of each of these subsections at schools for the blind in an effective and efficient manner. A variety of question formats were utilized, including closed-ended (e.g., multiple choice, multiple select) and open-ended (e.g., short answer) responses.

Participant Recruitment Procedures

The target participants were physical education teachers currently teaching at a school for the blind in the US. In order to obtain contact information for each of these teachers, a number of steps were taken. First, schools for the blind were identified using the 2013-2014 membership list of COSB. Names of the schools and webpage addresses for 45 members were available on the COSB website and were initially recorded. Second, the authors visited the webpages for each of the 45 members of COSB to determine if the member was a residential school for the blind with physical education programs. Of the 45 members, nine were eliminated because they were either (a) not schools (*n*=3), (b) distance education programs (*n*=1), (c) using an itinerant model after the residential school closed (*n*=2), or (d) did not have a functioning physical education program (*n*=3). A number of these schools were contacted to confirm these findings. Thirty-six residential schools with physical education programs remained after the elimination of the aforementioned COSB members.. In total, 51 email addresses were confirmed representing 35 of the 36 residential schools.

Data Collection Procedures

The final version of the questionnaire was entered into an online survey platform (Google Drive). This platform has been pilot tested for accessibility by experts at a school for the blind and was demonstrated to be accessible for individuals with low vision as well as complete blindness. A link to the online questionnaire was sent via email to all obtained email addresses in September 2015. Email reminders with the questionnaire link were sent five times over a ten week span (i.e., one time every two weeks) to maximize response rate. This questionnaire included no identifiable information of the participants (e.g., what school they worked for), ensuring anonymity for all participants. Those who received the email and did not want to participate were able to do so by not clicking the survey link. These participant recruitment and data collection procedures were approved by the Institutional Review Board (IRB) at the lead researchers' institution.

Data Analysis

Data from closed-ended and short-response open ended questions were analyzed descriptively, using frequencies and percentages. One question warranted additional analysis and a content analysis-inductive process was utilized. Specifically, responses were entered into an excel spreadsheet and organized into themes. A description of each theme, and frequency of responses in each theme, are displayed.

RESULTS

Facilities	Frequency (%)
Outdoor Track	24 (60%)
Bowling Alley	19 (48%)
Beep Baseball Diamond	5 (10%)
Wrestling Room	4 (10%)
Playground	3 (8%)
Indoor Track	3 (8%)
Trails	3 (8%)
Miniature Golf Course	3 (8%)
Horse Stable	2 (5%)
Multi-purpose Room	2 (5%)
Recreation Room	2 (5%)
Rockwall	2 (5%)
Tennis Courts	2 (5%)
Boating Facility	1 (3%)
Dance Studio	1 (3%)
Disc Golf Course	1 (3%)
Ice Skating Rink	1 (3%)
Ropes Course	1 (3%)
Sensory Room	1 (3%)

Table 1. Available facilities

Afterschool Sports	Frequency (%)
Wrestling	29 (73%)
Track & Field	28 (70%)
Goalball	26 (65%)
Cheerleading	24 (60%)
Swimming	20 (49%)
Bowling	4 (10%)
Weight Training	4 (10%)
Football	4 (10%)
Basketball	3 (8%)
Cross Country	3 (8%)
Golf	2 (5%)
Martial Arts	2 (5%)
Soccer	2 (5%)
Tennis	2 (5%)
Yoga	2 (5%)
Archery	1 (3%)
Beep Kickball	1 (3%)
Cycling	1 (3%)
Dragon Boat Racing	1 (3%)
Hiking	1 (3%)
Skiing/ Snowboarding	1 (3%)
Volleyball	1 (3%)

Table 2. Afterschool sports opportunities

Physical Education Activities	Elementary Frequency (%)	Secondary Frequency (%)
Archery	6 (15%)	17 (43%)
Beep Baseball	32 (80%)	31 (78%)
Basketball	33 (80%)	37 (93%)
Bocce	14 (35%)	20 (50%)
Bowling	36 (90%)	36 (90%)
Cycling	23 (58%)	24 (60%)
Disc Golf	18 (45%)	29 (73%)
Fishing	6 (15%)	7 (18%)
Fitness	40 (100%)	40 (100%)
Football	13 (33%)	19 (48%)
FMS	39 (98%)	35 (88%)
Goalball	33 (83%)	37 (93%)
Golf	25 (60%)	29 (73%)
Hiking	14 (35%)	21(53%)
Hockey	19 (48%)	22 (55%)
Jump Rope	33 (83%)	29 (73%)
Showdown	4 (10%)	12 (30%)
Soccer	26 (65%)	26 (65%)
Swimming	29 (73%)	30 (75%)
Track & Field	35 (88%)	39 (98%)
Volleyball	22 (55%)	28 (70%)
Weight Training	16 (40%)	37 (93%)
Wrestling	10 (25%)	15 (38%)

Table 3. Common PE activities across grade level

Of the 51 physical education teachers contacted, 40 (78%) responded to the survey. Because of the annoymous nature of the survey, it is not possible to determine whether every school for the blind that was contacted is represented in the sample.

Regarding teacher characteristics, all teachers reported that their schools offered physical education classes and that certified teachers instructed these classes. All but two teachers reported that paraprofessionals were available to assist in physical education, and 28 (70%) were specifically assigned to physical education.

Participants reported that high school-aged students receive physical education 4.0 (range 1-7) days per week for 55.6 (40-150) minutes per day. Elementary-aged students received physical education 3.9 (1-7) days per week and 44.6 (30-65) minutes per day.

50% of participants reported feeling the most prepared to teach students with visual impairments and no other disability, whereas just four (10%) and 1 (3%) felt most comfortable teaching students with ASD/VI or deafblindness. More commonly, participants felt less comfortable with students with severe/profound disabilities, ASD/VI, and deafblindness.

Percentage reported	VI only	ASD/VI	S&P	Deafblind	VI + Other
0%	4	4	5	11	1
1-19%	8	24	21	28	5
20-39%	8	8	10	-	14
40-59%	5	4	2	-	1
60-79%	6	-	2	1	6
80-99%	5	-	-	-	9
100%	4	-	-	-	4

Table 5. Frequency of participations reporting student population reported across categories

Assessments	Elementary	Secondary
Teacher made assessments/ checklists	16	13
Test for Gross Motor Development – 2 (TGMD-2)	10	2
Brockport Physical Fitness Test	6	14
FitnessGram	6	6
The Oregon Project for Preschool Children who are Blind or Visually Impaired	4	-
Curriculum Based Assessments	3	2
Adapted Physical Education Assessment Scale II (APEAS II)	3	4
No Assessments used	3	6
Presidential Fitness Test	2	2
State Assessments	1	2
DEVPRO	1	1
Sherrill Social Play Inventory	1	1
University of Virginia APE Assessment	1	1
Project Mobilitee	1	1
Motor Skills Inventory	1	-
Pediatric Balance Scale	1	-
Buehls Fitness Assessment	1	-
ICAN	1	-
Peabody Motor Skills Assessment	1	-
Lousiana Project C.R.E.O.L.E.	-	1
Class participation only	-	1

Table 4. Frequency of assessment tools reported across age-level.

DISCUSSION/ CONCLUSIONS

Major Points

- Hatlen (2003) indicated that the population of students who attend schools for the blind has shifted from predominantly those with visual impairments and no other disability, to those with multiple disabilities. Results from this study support Hatlen, where few (*n*=4) teachers reported that all of their students had a visual impairment and no other disability. More commonly, teachers reported teaching students with a mix of different disabilities, in addition to visual impairments. Because of this, it is essential that best-practice suggestions for teaching physical education in schools for the blind take into consideration and meet the needs of this diverse population.
- A number of strengths of programs emerged from the results of this study. Most importantly, all teachers reported that their schools provide physical education, are hiring certified physical education teachers, and are utilizing paraeducators. They are also utilizing curricula that are tied to their state and national standards and are offering a variety of afterschool sports. By providing curricular framed by state and national standards, like those provided to same-aged peers in community or public schools with some modifications as needed, students with visual impairments are much more likely to meet ECC components of self-determination, socialization, and independence (Lieberman, et al., 2014) and participate in and garner the benefits from physical activity.
- Although strengths emerged, a number of concerns were also made evident by this study. Most importantly is the lack of validated assessments in the field and therefore the limited use of validated assessments, and the need for additional training for the teachers related to children who are deafblind, who have ASD/VI, or have severe and profound disabilities. The field of physical education has very few assessments in general and even fewer that are validated for children with visual impairments. The only two physical activity assessments validated for children with visual impairments are the TGMD-2 and the Brockport Physical Fitness Test. The concern with using non-validated assessments is that the population they were created with is not the population they are being used with in this case. Utilizing validated assessments that are available, and working to create more validated assessments should be a focus in our field. The second concern brought to light in this study is the need for additional training for physical education teachers regarding students with disabilities in addition to visual impairments (e.g., ASD/VI). This topic is not a common one even in graduate programs in adapted physical education. Because of this, teachers must seek out resources, workshops, classes, videos and books in this area to ensure self-efficacy in this specific area of instruction.
- This research demonstrates that populations of students currently enrolled at schools for the blind may not match those used in previous research in these settings. Because of current enrollment trends, it is essential for future research in this arena to consider all potential student populations when conceptualizing future exploratory (e.g., exploring baseline physical activity behavior) and intervention work. In addition, the need for future training and validated assessment instruments necessitate research exploring development and effectiveness in these arenas pertaining to the unique student populations educated at schools for the blind.

CONCLUSIONS

The importance for physical education for school-aged individuals with visual impairments cannot be overstated. Quality programs can promote physical activity participation while also touching upon components of the ECC. Previously, most attention in research in this area was given to inclusive physical education experiences or residential physical education for those with visual impairments and no additional disabilities. The purpose of this study was to focus attention on the experiences of physical education teachers at schools for the blind. Because of this study, we have important information that could be utilized to further develop physical education programming at schools for the blind around the country that is appropriately created and implemented for all enrolled students.

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