

A Survey of K-12 Educators Regarding Awareness of Hearing Loss, Devices and Resources.

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Abstract

The purpose of this study was to assess educators' awareness of the effects of hearing loss on a child and the resources available these children. A 10-item questionnaire regarding the effects of hearing loss on a child, awareness of different physical accommodations/modifications for a child with hearing loss, and awareness of amplification devices as well as demographic questions was sent to 9,481 educators employed in the Mississippi public schools. 735 educators responded, although less than ten percent, there are some conclusions that may be drawn on the responses that were provided. The findings support a need for additional communication of information regarding hearing loss, its effects, and amplification options. Implications of these findings for educators, audiologists, and speech-language pathologists are discussed.

Keywords: Hearing loss; Amplification; Intervention.

Introduction

Given the high prevalence of hearing loss among children in the United States, the likelihood of having a hearing-impaired child in a public education classroom is probable. According to Blanchfield et al., [1] approximately 738,000 Americans experience severe to profound hearing loss. Approximately 59,040 of these are children under the age of 18 years of age. Furthermore in 2005, there were approximately 3 million children with some degree of educationally handicapping hearing loss [2]. It is likely there are more children with hearing loss who are not identified and/or not classified as such, thus increasing even more the probability of having a child with hearing loss in a classroom.

Given that the majority of children with hearing loss are educated in the public schools [3], it is imperative that educators in the public school system are aware of the effects that a hearing loss has on a child, especially with the growth of inclusion. However, a study conducted by Lass, Tecca, and Woodford [4] suggests that there are gaps in educators' knowledge of amplification devices and hearing loss. It has been reported that educators in the special education classroom environment have been exposed to hearing loss course content that educators in regular classroom environments have not [5]. Therefore, it is not surprising that some educators are unaware of the effects of hearing loss [6]. However, with the recent push in education for inclusion of children with developmental and learning difficulties into a mainstream classroom, it is imperative all educators are familiar with the effects of hearing loss. It is conceivable that some educators may not be sufficiently meeting the needs of children with hearing loss. Eriks-Brophy et al., [7] supported this possibility and felt that educators' lack of awareness of hearing loss may negatively impact a child academically because educators may be unaware of strategies needed to overcome these effects.

The educational success of children with hearing loss does not depend solely on an appropriate amplification fitting. Strudthoff and Blair [8]

stated that only half of educators have been given information on educational management for children with hearing loss. Luckner and Carter [9] identified 67 specific competencies needed for working with children with hearing loss with additional disabilities. Knowledge and support from educators is essential in order for children with hearing loss to succeed academically.

When a resource person is needed, audiologists are the most qualified hearing healthcare professionals who are knowledgeable regarding amplification devices and hearing loss and should be the professionals to provide educators with the methods and strategies that will help these children excel academically and socially. However, according to Blair, EuDaly, and Von Almen Benson [10], educators typically do not seek the assistance from audiologists on matters related to hearing loss and/or amplification devices. Although more than 20 years of research has supported a need for collaborative efforts and additional training, it still appears that the audiologist is not the primary contact for educators when assistance is needed for children with a hearing loss or with their amplification devices.

Method

A 10-item questionnaire developed by the authors was used in this survey (Appendix). The questionnaire contained seven content questions regarding awareness of the effects of hearing loss on a child, awareness of different physical accommodations/modifications for a child with hearing loss, and awareness of amplification options. Three demographic items were added to seven content items to comprise a total of ten. The questionnaire was created using the Qualtrics program and was disseminated via electronic format. The survey was sent to 9,481 K-12 teachers in the state of Mississippi via an anonymous survey link in electronic mail format and completed using the Qualtrics program. The list of potential participants was obtained by completing an internet search on each school district's website for a list of published email addresses. Of the 9,481 questionnaires disseminated, 735 of the questionnaires were completed and compiled for data analysis.

Results

Data were analyzed and descriptive statistics are summarized in Table 1 and Table 2 below. The total values vary because some respondents did not reply to every question as responses were not forced. Results revealed that 61% of the respondents have or have had a hearing impaired child in their classroom. Only 50% of the respondents reported awareness of amplification options for children

with hearing loss and 67% reported awareness of the basic physical classroom accommodations/modifications necessary for a child with a hearing loss to excel in the classroom environment. 88% of educators reported they would seek someone other than an audiologist and of these, 50% would seek a speech-language pathologist if assistance with amplification options was needed. 90% or more of respondents were aware of the effects of hearing loss on educational and social success.

| Question | N | YES | NO |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----|
| Do you currently have or have you ever had a child with a hearing loss in your classroom? | 698 | 61% | 39% |
| Are you aware of the effects of significant hearing loss on a child's speech and language development? | 735 | 93% | 7% |
| Are you aware of the effects of a significant hearing loss on a child's educational success? | 735 | 93% | 7% |
| Are you aware of the effects of a significant hearing loss on a child's social skills/social success? | 735 | 90% | 10% |
| Are you aware of the basic physical classroom accommodations/modification necessary for a child with hearing loss to excel in the classroom setting? | 735 | 67% | 33% |
| Are you aware of the amplification options for children with a significant hearing loss? | 735 | 50% | 50% |

Note: N=Number of respondents.

Table 1: Awareness of Effects/Resources

| Professionals | N | Percentage |
|---------------------------------|-----|------------|
| Speech-Language Pathologist | 360 | 52% |
| Teacher of Deaf/Hard-of-Hearing | 84 | 12% |
| Audiologist | 84 | 12% |
| Parent | 57 | 8% |
| No one | 56 | 8% |
| School Nurse | 48 | 7% |
| Total | 689 | 99% |

Note: N=Number of respondents for each category.

Table 2: Summary of Professionals That Educators Seek for Assistance with Amplification Options.

Discussion

The purpose of this study was to identify Mississippi educators' awareness of the effects of hearing loss, accommodations, and amplification devices. Previous research supports that it is reasonable educators in other states may exhibit the same concerns and could benefit from these findings. The findings of this survey suggest a need for supplementary information, modifications to the educators' curriculum, or additional continuing education opportunities. The results of this survey support that more information is needed for educators in the areas of amplification devices and basic physical accommodations and modifications of a classroom for a child with significant hearing loss; because 90-93% of the respondents reported knowledge of how a significant hearing loss affects a child educationally and socially, no additional information is required in these areas. Previous studies, conducted nearly 30 years ago, identified a lack of awareness, yet this study suggests educators are still in need of

assistance on these topics [3]. The areas identified by this project are of great concern because educators are the primary instructors and caretakers of students with hearing loss in the educational environment. While the response was less than the expected ten percent, the authors feel as if there are many conclusions that may be drawn from the information provided.

Only fifty percent of educators reported that they were aware of the types of different amplification devices used by students with significant hearing loss. This finding is a concern because some knowledge of amplification devices by educators is crucial to assure student success in the classroom. Educators should know how to troubleshoot a non-functioning amplification device. Without functioning equipment, students may not be able to receive important acoustical information typically disseminated in an academic setting. A wide range of amplification device options exist today including a variety of hearing aids, cochlear implants, bone anchored implants, and FM systems. Therefore, it is essential that educators with hearing-impaired children in their classrooms must take the necessary daily measures to ensure that devices are operating properly. Amplification devices may require maintenance and/or troubleshooting techniques every day. It is a reasonable goal that educators should be familiar with these methods to assure that hearing impaired children receive optimal benefit during the school day. In order to achieve these goals, it is essential that educators have access to audiologists who can serve as resource professionals for this information.

One third of the respondents were not aware of these classroom modifications and accommodations to enhance the listening environment for children with hearing loss. The necessity for this awareness has been established by numerous studies that have reported high levels of classroom ambient noise. To ensure that children with hearing loss are in a good listening environment, educators should be aware of these classroom modifications. Without these modifications/accommodations, a child with hearing loss is at a disadvantage compared to his/her peers. Educators need to be aware of the need for modifications so they can report these needs to administrators.

When educators need assistance with amplification devices and hearing loss, over fifty percent of the respondents turn to speech-language pathologists. While amplification device troubleshooting and listening checks are well within the speech-language pathologist's scope of practice, it is not necessarily true that all speech-language pathologists possess the knowledge and skills to mentor educators on all the aspects of troubleshooting amplification devices and all the considerations needed for a child with hearing loss. The authors cannot determine from the data why educators do not seek the assistance of an audiologist. It may be due to a lack of available educational audiologists in the Mississippi public schools, or a belief that speech-language pathologists are the most appropriate professionals to contact. Future surveys similar to that used in this study could be used to assess educators and speech-language pathologists on these issues.

The results from this study suggest a need for supplementary materials, and modifications to the educators' curriculum, or perhaps additional continuing education opportunities. It is the author's contention that audiologists are the professionals who should serve as a resource to educators for amplification devices on the skills needed by educators to meet the needs of hearing impaired children. Therefore, the authors propose the use of four educational efforts that may enhance educators' awareness of and skills on the surveyed topic areas. These efforts could include but are not limited to the following:

- Teacher in-services/training
- Web-based instructional modules/videos
- Additional education of students in teacher preparation coursework/programs
- Written materials to serve as a quick reference guide for issues related to hearing loss and/or amplification devices

It is the author's hope and intent that providing educators with the knowledge and skills needed to evaluate and monitor amplification device function and to incorporate accommodations, will result in

significant improvement in the educational opportunities for hearing-impaired children.

References

1. Blanchfield BB, et al., (2001) The severely to profoundly hearing-impaired population in the United States: Prevalence estimates and demographics. *J Am Acads Audiol* 12: 183-189.
2. Bethesda MD (2006) NIDCD Outcomes Research in Children with Hearing Loss. National Institute of Deafness and Other Communicative Disorders. Statistical report: Prevalence of hearing loss in U.S. children, 2005.
3. Ross M (1994) Overview of aural habilitation. In J. Katz (4th Edn.) *Handbook of clinical audiology*. Baltimore, MD: Williams & Wilkins, pp. 587-595.
4. Lass NJ, Tecca JE, Woodford CM (1987) Teachers' knowledge of, exposure to, and attitudes toward hearing aids and hearing aid wearers. *Lang Speech Hear Serv Sch* 18, 86-95.
5. Lass NJ, Carlin MF, Woodford CM, Campanelli-Humphreys AL, Judy JM, et al., (1985) A survey of classroom teachers' and special educators' knowledge of and exposure to hearing loss. *Lang Speech Hear Serv Sch* 16: 211-222.
6. Eriks-Brophy A, Whittingham J (2013) Teachers' perceptions of the inclusion of children with hearing loss in general education settings. *Am Ann Deaf* 158: 63-97.
7. Eriks-Brophy A, Durieux-Smith A, Olds J, Fitzpatrick E, Duquette C, et al., (2006) Facilitators and barriers to the inclusion of orally educated children and youth with hearing loss in schools: Promoting partnerships to support inclusion. *The Volta Review* 106: 53-88.
8. Strudthoff JM, Blair JC (1998) Providing information to teachers on hearing loss. *J Edu Audiol* 6: 1-8.
9. Luckner JL, Carter K (2001) Essential competencies for teaching students with hearing loss and additional disabilities. *Am Ann Deaf* 146: 7-15.
10. Blair JC, EuDaly M, Von Almen Benson P (1998) The effectiveness of audiologists' information sources for classroom teachers. *Lang, Speech, and Hear Serv Sch* 30: 173-182.