

The Educational and Audiological Review (EAR) Team: A Project for Children with Minimal Hearing Impairment

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The Educational and Audiological Review (EAR) Team provides comprehensive services for children with minimal hearing impairment, including inservice, systematic communication between professionals, documentation of activities, and provision of aural rehabilitation in the classroom setting. After a pilot EAR project showed increases in numbers of children identified and in teacher collaboration, a training course was given to two regional special education districts in Illinois. An eight week follow-up workshop and survey indicated that the training was successful in increasing caseloads, frequency of inservice activity, professional collaboration, and improved documentation.

The effects of mild, moderate, and unilateral childhood hearing impairment on academic achievement are well documented. Studies of children with mild and moderate sensorineural hearing impairment (Blair, Peterson, & Viehweg, 1985; Davis, Elfenbein, Schum, & Bentler, 1986) demonstrate that even minimal hearing loss places students at risk for academic delay. Bess and Tharpe (1986) and Oyler, Oyler, and Matkin (1988) documented the negative effects of unilateral hearing loss on educational achievement. These studies indicated that the risk of grade failure for children with normal hearing in only one ear is ten times greater than for the general population. Ross, Brackett, and Maxon (1982, p. 37) point out that hearing impaired "children of normal intelligence do poorly

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academically because ineffective remedial measures are the rule rather than the exception.”

In Illinois, the Central Association for Special Education (CASE) is a 14-county regional program that provides educational and audiological services for students with significant hearing impairment. However, a new focus for CASE has been the establishment of the Educational and Audiological Review (EAR) Team, which serves children with *minimal*, fluctuating, and mild-moderate hearing losses. The EAR Team is a cooperative effort between CASE and member special education districts.

EAR Team Pilot Project

CASE EAR Team educators and audiologists believed hearing impairment was under-identified, with insufficient documentation of educational needs for those children who were identified. Communication and coordination among audiologists, teachers of the hearing impaired, administrators, and regular education teachers was lacking. Therefore, seven EAR Teams were established on an experimental basis. Each EAR Team consisted of an audiologist, itinerant teacher of the hearing-impaired, coordinator of hearing-impaired services, and special education director. Team members met monthly to review new names, plan inservice presentations, and discuss a specific group of hearing-impaired children. Additionally, regular classroom teachers, speech-language pathologists, nurses, and social workers were invited on a rotating basis. Program planning focused on developing practical educational strategies for minimally impaired students in the regular classrooms. Reports of each meeting were generated to assist EAR Team members in their follow-up with students and to provide documentation to administrators. A set of 17 “listening letters” for classroom teachers was developed, each explaining a specific hearing loss, what the child might be expected to hear, where the student should sit in the classroom, and who to contact with questions.

CASE EAR Teams have been collaborating since 1987 and are now a permanent component of local service to hearing-impaired children, with twenty core staff members involved. EAR Team members have identified hearing loss in 1% of the total school population. Of this group, more than 80% are served through collaborative consultation in the regular classroom, with updated audiological evaluations yearly. Estimates of the national incidence of hearing loss in school-age children vary between .5% (Northcott, 1973) and 10% (Hull & Dilka, 1984).

Outreach Procedures

In 1991, CASE was funded by the Illinois State Board of Education to extend the EAR Team project to other districts. Two sessions of outreach instruction were provided to an EAR Team trainee group from two special education cooperatives. The purpose of this report is to describe the impact of this outreach training effort via pre- and post-training survey data gathered from the partici-

pants. Appendix A is the survey instrument. The report will also discuss differences between perceived needs and activities of established EAR Team members and the trainee group.

Trainees included six audiologists, twenty-four teachers of the hearing-impaired, and one school nurse. The training consisted of lectures, role-plays, audio and video lessons, group discussions, and adaptation of the EAR Team computerized record-keeping system. A brief outline of topics presented is Appendix B. Special emphasis was placed on methods to improve identification of children with minimal hearing loss. Appendix C lists some of those techniques. The outreach agenda also highlighted methods to increase interdisciplinary collaboration. At the conclusion of Session I, trainees were asked to schedule at least one inservice presentation and one team meeting to discuss student programs, before the next workshop eight weeks later.

Group Differences

Thirty-one participants completed the EAR Team survey on the first day of training, before the presentation began. When these responses were compared to responses from the established CASE EAR Team members, several differences were noted. All of the teachers from the CASE EAR teams served caseloads of 12 to 20 or more students. Additionally, each teacher provided consultation to the teachers of 50-80 students with minimal hearing loss on an as-needed basis. In the trainee group, 81% reported caseload numbers of only 4 to 11 children. During discussion, trainees reported that limited identification procedures and lengthy one-to-one instructional tutoring time were factors in keeping caseloads small. Because CASE EAR Teams provided consultations on communication skills in the classroom setting, greater numbers of children were identified and served.

Most teachers and audiologists in the trainee group reported presenting inservice workshops once a year. However, established EAR Teams provided at least monthly inservice activities. Session I included discussion of the rationale for presenting workshops about the behavioral indicators of hearing loss. As mainstream teachers in the CASE area learned how to identify students with suspected minimal hearing loss, the number of children referred by school staff for audiological testing doubled. Figure 1 shows referrals by school teachers, using data from CASE year-end reports. The increase in referrals by school staff was presumably a direct result of workshops presented at teachers' meetings. CASE EAR Teams found that teachers requested audiological evaluations based on behavioral clues, often before their classes were scheduled for yearly public health hearing screenings. Over 75% of the children referred by teachers in 1990 had hearing loss or a significant history of hearing loss. Teacher referral has been a critical factor in the EAR Team tracking of this population.

Regular communication with allied professionals is an operating principle of the CASE EAR Team. All of the contacts are documented through inservice logs and meeting notes. Survey results indicated that in areas without EAR

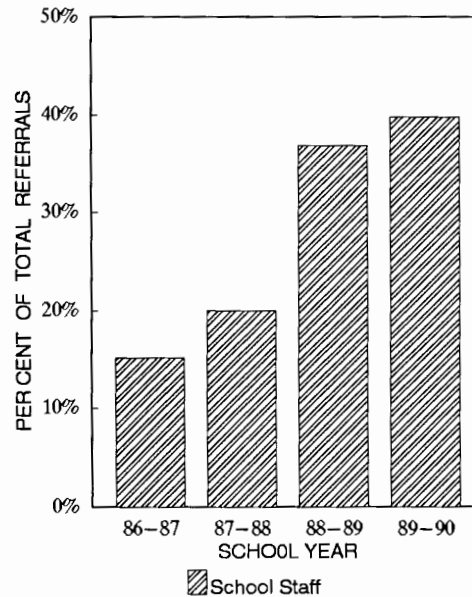


Figure 1. Percent of total CASE EAR Team audiological referrals submitted by teachers.

Teams, regular communication occurred less frequently. Over one-third of the trainees stated they communicated with each other once a year, that they never communicated, or that communication did not apply. In areas without EAR Teams, teacher-to-teacher and audiologist-to-audiologist communication was lower. By contrast, everyone confers at least monthly in established EAR Teams.

Table 1 lists areas specified by the trainees for professional skill improvement. Over half of the responses were from a series of topics including auditory skill development, the ear and hearing, hearing aids, and identification of children with hearing loss. CASE EAR Teams have met those needs through regular communication and peer observations among audiologists, regular classroom teachers, and teachers of children with minimal hearing impairment.

In contrast, Table 2 indicates that members of established EAR Teams want to learn additional collaborative techniques for incorporating communication skill training into the regular classrooms. One conclusion we have drawn about the differences in professional development priorities between the groups is that once teams work through the basics of identification, screening procedures, and placement, they want to function more as a collaborative unit with the grade level teachers, including auditory and oral skill training within the classrooms. Secondly, *all* teachers want their students to be better listeners. The teachers who identified and referred children acquired some ownership for the special

Table 1
 Trainee EAR Team Responses Indicating Professional Development Needs

	Percent Response
Ear Anatomy, Hearing Aids, Auditory Training	54.0%
Speech & Speech Reading	13.0%
Identifying Hearing Losses	8.0%
Counseling/Coping Strategies	8.0%
Language	8.0%
Content Areas	5.0%
Working in Classroom	4.0%
	100.0%

Table 2
 CASE EAR Team Responses Indicating Professional Development Needs

	Percent Response
Collaboration: Incorporation of Speech, Language, Listening into Regular Classroom	40.0%
Speech, Phonological Development	33.0%
Assessment	20.0%
Adaptations for Multiply Impaired Students	7.0%
	100.0%

needs of minimally hearing impaired students and requested EAR Team consultations regularly. The result was that the CASE EAR Teams needed more ideas for effective collaboration.

Training Impact

Session II of the outreach program was held for the trainees eight weeks later. At that time, trainees developed communication, coping, and acoustic strategies for minimally impaired children for use in the regular classroom. Log sheets listing their inservice activities and team meetings were collected. The participants were surveyed again about caseload numbers, frequency of workshop presentations, and professional collaboration. During the eight-week interim, in contrast to the previously reported activities, the trainees had presented 25 inservice programs to 91 regular classroom teachers about the behavioral indicators of hearing loss. Evaluation forms indicated that 100% of the attending teachers rated the inservices as helpful. The trainee EAR Team became aware of 93 new

children with a suspected or confirmed hearing loss. For example, some of the children were hearing aid wearers whose teachers had been unfamiliar with procedures for establishing hearing-impaired services. These 93 students received EAR Team coordination for audiological evaluation, educational screening, diagnostics, and when needed, specialized collaborative instruction.

Communication among professionals began on at least a monthly basis. Trainees held four EAR Team meetings, copies of meeting notes were sent to administrators, and 19 cases were reviewed. Trainee EAR Teams had, in some cases, doubled the number of students they were serving.

Conclusions

The EAR Team approach tracked more children with unilateral, mild, or conductive hearing losses than the typically accepted "itinerant-as-tutor" arrangement. Instead of instructing one child at a time on academics, EAR Team teachers began to focus on the coping and communication skills necessary for the child to succeed within the regular class. By collaborating with classroom teachers on identification and lesson planning, itinerant teachers for children with hearing loss were able to serve more students at each school visit. Students with normal hearing also benefited from the additional listening practice taking place in the room. Audiologists presented inservice workshops on hearing and auditory management to classroom teachers. As acoustic strategies were implemented, teachers reported all children were benefiting from a better listening environment.

By devoting two hours per month to CASE EAR Team meetings, audiologists helped plan and review 927 programs of children with hearing loss in 1990. Had those two hours per month been used for diagnostic testing, the audiologists would have served 127 students. Efficient scheduling has allowed teachers and audiologists to impact a greater number of students in that same two hours with an EAR Team meeting.

We have concluded that the EAR Team strategy is a wise use of human resources, translating into financial accountability for districts by serving more children through a team approach. Further, this system has brought appropriate, comprehensive service to both regular and special education students.

ACKNOWLEDGEMENTS

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APPENDIX A

EAR TEAM SURVEY

Please circle the corresponding code numbers unless otherwise instructed.

1. At the beginning of this school year, how many hearing impaired children were in your class or on your caseload? _____

2. Briefly describe the kind(s) of service you provide.

3. How frequently do you communicate with the following professionals with regard to the hearing impaired children in your current class/caseload? (Please indicate contacts with others in your own field as well.)

	Does Not Apply	Never	Yearly	Monthly	Weekly	Daily
Audiologist	1	2	3	4	5	6
Teacher Hearing-Impaired	1	2	3	4	5	6
Director/Coordinator	1	2	3	4	5	6

4. How often do you provide inservice workshops in areas related to hearing, hearing loss, listening and language?

	Does Not Apply	Never	Yearly	Monthly	Weekly	Daily
	1	2	3	4	5	6

5. In what areas do you feel you most need technical assistance for working effectively with hearing impaired students?

APPENDIX B

EAR TEAM OUTREACH TRAINING

I. Session I

- A. Description of philosophy and mission of EAR Team.
- B. Detailed lecture on EAR Team process.
 - 1. Inservice activities

2. Identification procedures
3. Coordination with educators and physicians
4. Documentation procedures
- C. Dissemination of EAR Team materials and handouts for teachers.
- D. Selection of communication methods and roles for the members of the trainee EAR Team.
- E. Sample EAR Team meeting.
- F. Selection of jobs and duties to be completed prior to next training session.

II. Session II

- A. Discussion of team meetings held since last training session.
- B. Collect trainee log sheets: cases reviewed, inservice activities, number of new students identified, number of handouts disseminated.
- C. Discuss techniques for securing administrative support.
- D. Propose and implement at least 3 communication methods with building staff.
- E. Propose and implement at least 3 strategies for increased student involvement in the classroom.
 1. Regular education alternatives
 2. Classroom teacher behaviors to promote participation
 3. Communication coping strategies
 4. Classroom adaptations to improve acoustic environment
- F. List areas appropriate for work with hard-of-hearing students.
- G. Develop and use consultation log with at least 3 classroom teachers.
- H. Discuss behaviors of EAR Team members that will facilitate staff and parent collaboration at multidisciplinary conferences.
- I. Conclusion: Trainee EAR Team presentation of EAR Team process to guest educators from local schools, with assistance from CASE EAR Team.

APPENDIX C

INDICATORS OF HEARING LOSS INSERVICE

- I. Contact principal or administrator and request 15 minute meeting with teachers
- II. Play audio tape simulation of hearing loss
 - A. Discuss the hearing-impaired behaviors the audience exhibited during the simulation
 - B. Describe types and degrees of hearing loss
- III. Discuss educational implications of hearing loss
- IV. Distribute Hearing Checklist (see below)
 - A. Invite participants to consider specific children
 - B. Invite participants to turn in names of children they're concerned about
- V. Participants complete inservice evaluation form

HEARING CHECKLIST

The following is a list of behavior patterns that are often characteristic of children with unidentified hearing loss

- _____ 1. Appears not to be paying attention. May seem to daydream.
- _____ 2. Hears inconsistently. Appears to hear some days and/or in some settings and not hear at other times.
- _____ 3. Frequently requests repetition. Asks "what?" or "huh?"
- _____ 4. Has speech, language or voice problems.

- _____ 5. Does not put endings on words and/or has difficulty pronouncing sounds such as "s" "sh" "th" "f."
- _____ 6. Has allergies, frequent colds or ear infections. Has tubes in ears.
- _____ 7. Seems to be very visual and aware of movement in the room.
- _____ 8. Concentrates on people's faces when they're talking.
- _____ 9. Easily distracted.
- _____ 10. Often looks puzzled. Gives answers unrelated to the question asked.
- _____ 11. Has difficulty with phonics or reading.
- _____ 12. Does not follow oral directions well. Often "out of step" with the class.
- _____ 13. Appears immature. Exhibits social inadequacies.
- _____ 14. Strains to listen. Seems to favor an ear, turning it toward the speaker.
- _____ 15. Has inappropriate speaking behavior (i.e., too loud, too soft, or tries to dominate conversations).
- _____ 16. Complains of ear pain or tugs at ears. Complains of noise or buzzing.
- _____ 17. Seems to have poor balance or be uncoordinated.
- _____ 18. Complains that loud noises hurt.
- _____ 19. Has short attention span.

If any of your students exhibit 3 or more of these behaviors
please contact one of the members of your EAR Team.