

Teaching and Learning

Albertini, J., Ehrhardt, E., & Strauss, H. (Eds). (2000). *Kommunikation und Kreativitaet [Communication and Creativity]*. Villingen-Schwenningen: Neckar-Verlag. [Book]

This collection of research reports and essays on the themes of teaching, assessment, and rehabilitation of people with disabilities is divided into three sections. The first focuses on creativity in the lives of children with disabilities. In the second section, the interaction of hearing loss with speech, sign, writing, and technology is considered. Finally, the empirical results of two research projects are reported: an analysis of the technical register found in professional certification exams in Germany and an analysis of an experimental distance learning project at a technical college for deaf students in Germany.

Berent, G. (2004). Coding deaf and hard-of-hearing students' successful and unsuccessful English productions. In D. Janáková (Ed.), *Proceedings: Teaching English to Deaf and Hard-of-Hearing Students at Secondary and Tertiary Levels of Education in the Czech Republic* (pp. 108-11). Prague, Czech Republic: Charles University, The Karolinum Press. [AN 1851]

In this article, the author demonstrates a flexible coding system for characterizing deaf and hard-of-hearing students' productive English. This system uses codes for identifying and reinforcing students' successful productions and for guiding students' correction of their unsuccessful productions. The system permits teachers and researchers to select logical groupings of codes representing more than 200 English production types, including syntactic categories, grammatical relations, morphological properties, sentence and verb types, semantic relations, information structure, discourse processes, rhetorical devices, and mechanics and punctuation.

Berent, G. (2004). Optimizing the teaching-learning experience for deaf and hard-of-hearing learners of English. In D. Janáková (Ed.), *Proceedings: Teaching English to Deaf and Hard-of-Hearing Students at Secondary and Tertiary Levels of Education in the Czech Republic* (pp. 40-46). Prague, Czech Republic: Charles University, The Karolinum Press. [AN 1853]

This article provides an overview of presentations and activities of a week-long conference on Teaching English to Deaf and Hard-of-Hearing Students at Secondary and Tertiary Levels of Education in the Czech Republic, held at Charles University in Prague, August 22-27, 2004. The article summarizes the English teaching/learning themes addressed in the conference lectures and seminars. These themes pertained both to English teaching/learning per se and to general educational issues. The author discusses the major challenges facing educators of deaf and hard-of-hearing students and their responsibilities for optimizing their students' teaching/learning experience. Emphasis is placed on the critical need to experiment with new methods and materials in an effort to help students to experience the greatest success possible in developing their English language knowledge.

Berent, G. (2004). *English Inspiring the Curriculum: A comprehensive model combining*

English for academic and specific purposes at NTID. NTID Research Bulletin, 9(2/3), 6-8. [AN 1852]

The English literacy challenge confronting NTID students is serious and persistent and has a profound influence on students' prospects for educational and career success. Only a bold, comprehensive English-across-the-curriculum effort can provide the requisite levels of critical complementary and supplementary English support needed for significantly improving students' English literacy skills. A model is proposed that builds on NTID's formal English language programs by involving all NTID faculty in a coordinated college-wide effort. The "English Inspiring the Curriculum" model involves the use of both English for Academic Purposes and English for Specific Purposes. The model incorporates professional development, curriculum enhancement through partnerships with English and curriculum experts, and research to assess the model's effectiveness.

Davis, S., & Kelly, R. (2003). Comparing deaf and hearing college students' mental arithmetic calculations under two interference conditions. *American Annals of the Deaf*, 148(5), 213-221. [AN 1770]

The mean reaction times (RT) of deaf and hearing college students were compared on a mental calculation task for verifying the accuracy of addition and multiplication problems. The deaf college students were divided into higher and lower readers. The results showed that the reaction times and accuracy of the higher deaf readers and hearing students were similar for the addition problems, and that their RT performance was greater under the voicing interference mode. This suggests that both higher deaf readers and hearing students were using an articulatory loop or inner voices to mentally process the arithmetic information. In contrast, the lower deaf readers showed no RT differences between the two interference modes and had consistently lower RT performance and score accuracy across the experimental verification tasks.

Egelston-Dodd, J. (2004). National Trends in the Education of Students Who Are Deaf and Hard of Hearing. In Robert K. Rittenhouse (Ed.) *Deaf Education at the dawn of the 21st Century: Old challenges, new directions* (pp. 25-35). Hillsboro, Oregon: Butte. [1679]

This chapter deals briefly with eight topics and more intensely with two issues. It covers deaf teacher participation in the field, the easing of legal mandates, discipline of disabled students by suspension and expulsion in conflict with IEP/placement, communication issues including the general acceptance of ASL as a second language for academic study, the use of multimedia in the classroom, emerging minority populations and their needs, the drying up of funding and support from state and federal sources, and the runaway success of cooperative learning as an instructional strategy. The major trends discussed are the inclusion of deaf students in settings where their communication and social development is at risk and career mobility training for future success in the world of work.

Kelly, R., Albertini, J., & Shannon, N. (2001). Deaf college students' reading comprehension and strategy use. *American Annals of the Deaf*, 146(5), 385-400. [AN 1766]

Two reading comprehension studies were conducted with 46 deaf college students for the purpose of 1) examining their comprehension of college level science related material and 2) what strategies may be useful in improving their understanding. The results suggest that students profess a better understanding of what they read than they are able to demonstrate. Also, their inability to identify a topically incongruent sentence further suggests a need for more careful self-monitoring of their reading. The second study on strategy review instruction showed that higher level readers benefited from instruction, but lower level readers did not. Post study interviews and a read aloud task were conducted with the students to obtain additional information about their comprehension, reading habits, and use of reading comprehension strategies.

Kelly, R., Lang, H., Mousley, K., & Davis, S. (2003). Deaf college students' comprehension of relational language in arithmetic compare problems. *Journal of Deaf Studies and Deaf Education*, 8(2), 120-132. [AN 1743]

In this study of deaf college students' performance solving compare word problems, relational statements were either consistent or inconsistent with the arithmetic operation required for the solutions. The results support the consistency hypothesis Lewis and Mayer (1987) proposed based on research with hearing students. That is, deaf students were more likely to miscomprehend a relational statement and commit a reversal error when the required arithmetic operation was inconsistent with the statement's relational term (e.g., having to add when the relational term was less than). Also, the reversal error effect with inconsistent word problems was magnified when the relational statement was a marked term (e.g., a negative adjective such as less than) rather than an unmarked term (e.g., a positive adjective such as more than). Reading ability levels of deaf students influenced their performance in a number of ways. As predicted, there was a decrease in goal-monitoring errors, multiple errors, and the number of problems left blank as the reading levels of students increased. Contrary to expectations, higher reading skills did not affect the frequency of reversal errors.

Kelly, R., Lang, H., & Mousley, K. (2001). PROJECT SOLVE: Web-based guided practice to improve math word problem solving. Paper presented at the Instructional Technology and Education of the Deaf Symposium, Rochester, N.Y. [AN 1726]

Project SOLVE addresses, in an innovative and practical way, a critical problem facing most deaf college students and other learners with special needs – inadequate preparation and practice in problem solving and analytical thinking. Supported by a grant from the Fund for the Improvement of Postsecondary Education (FIPSE), U.S. Department of Education, Project SOLVE will provide web-based problem-solving instruction and guided practice for math word problems. This project also has instructional implications for high school students who are college bound, and who face similar difficulties with reading comprehension, problem-solving logic, and organization.

Kelly, R., Lang, H., & Pagliaro, C. (2003). Mathematics word problem solving for deaf students: A survey of practices in grades 6-12. *Journal of Deaf Studies and Deaf Education*, 8(2), 104-119. [AN 1744]

One hundred and thirty-three mathematics teachers of deaf students from grades 6-12 responded to a survey on mathematics word problem-solving practices. Half the

respondents were teachers from center schools and the other half from mainstream programs. The latter group represented both integrated and self-contained classes. The findings clearly show that regardless of instructional setting, deaf students are not being sufficiently engaged in cognitively challenging word problem situations. Overall, teachers were found to focus more on practice exercises than on true problem-solving situations. They also emphasize problem features, possibly related to concerns about language and reading skills of their students, rather than analytical and thinking strategies. Consistent with these emphases, teachers gave more instructional attention to concrete visualizing strategies than to analytical strategies. Based on the results of this study, it appears that in two of the three types of educational settings, the majority of instructors teaching mathematics and word problem solving to deaf students lack adequate preparation and certification in mathematics to teach these skills. The responses of the certified mathematics teachers support the notion that preparation and certification in mathematics makes a difference in the kinds of word problem-solving challenges provided to deaf students.

Kelly, R., & Mousley, K. (2001). Solving word problems: More than reading issues for deaf students. *American Annals of the Deaf*, 146(3), 253-264. [AN 1725]

In a study, deaf and hearing college students were given 30 mathematics problems to solve. The results show that the deaf college students, regardless of reading level, were comparable in performance to the hearing college students when solving the numeric/graphic problems and the initial, least complex set of corresponding word problems.

Lang, H. (2002). Higher education for deaf students: Research priorities in the new millennium. *Journal of Deaf Studies and Deaf Education*, 7(4), 267-280. [AN 1756]
A review of research on deaf students in higher education reveals a significant body of knowledge about the barriers these students face in gaining access to information in the classroom. Much less is known about the potential solutions to these problems. In addition, there is a dearth of research on the effectiveness of such support services as interpreting, note taking, real-time captioning, and tutoring, particularly with regard to their impact on academic achievement. This article summarizes relevant research and suggests directions for educational researchers interested in enhancing academic success and the retention of deaf students in higher education programs.

Lang, H. (2002). Teaching mathematics to deaf students: A comprehensive web-based resource. *The Mathematics Teacher*, 95, 318. [AN 1773]

The National Science Foundation's Clearinghouse on Mathematics, Engineering, Technology and Science (COMETS) is developing a new resource on the World Wide Web for math teachers who have deaf students in their classroom. Over the next two years, the COMETS web site will make information available to math teachers.

Lang, H., Babb, I., Scheifele, P., Brown, S., LaPorta-Hupper, M., Monte, D., Johnson, P., & Zheng, D. (2002). Classroom of the Sea. *NTID Research Bulletin*, 7(1), 2, 6-7. [AN 1769]

The Classroom of the Sea (COS) is an innovative National Science Foundation-

sponsored project that offers high school deaf students an integrated curriculum based on an interdisciplinary field, marine science. This program was to provide authentic science activities through marine science laboratory activities.

Lang, H., & Stokoe, W. (2000). A treatise on signed and spoken language in early 19th century deaf education in America. *Journal of Deaf Studies and Deaf Education*, 5, 196-216. [AN 1712]

This paper summarizes the early work of Frederick Augustus Porter Barnard, a deaf scientist and educator, on communication and teaching in classrooms for deaf student. Although published only two decades after formal schooling began in America, Barnard's analysis of sign language, in particular, displays a thorough understanding of critical issues, written in an undated style. Making this a must reading for all who teach deaf students today.

Marschark, M. (in press). Developing deaf children or deaf children developing? In D. Power & G. Leigh (Eds.), *Education of the deaf: Across the curriculum, across the world* (pp. 13-25). Washington, DC: Gallaudet University Press. [AN 1858]

This chapter discusses the education of deaf children, with education defined not just in terms of teachers and classrooms, but including all of the implicit and explicit teaching and learning that goes on throughout a child's life. In this sense, the chapter simultaneously is about the development of deaf children, with development meant in the broad sense of promoting the development of deaf children ("developing deaf children") as they naturally grow and learn ("deaf children developing"). Unfortunately, scientists often are content to document how deaf children develop under different conditions with less concern about the broader implications of what they find, whereas teachers and parents focus on fostering development along particular lines with less concern about the whys of development. As a result, we often miss opportunities for effective interactions among parents, teachers, and researchers. This has to change. We need make use of information that is available—and often obvious—to others so as to optimize educational opportunities for each deaf child.

Marschark, M. (2001). Context, cognition, and deafness: Planning the research agenda. In M.D. Clark, M. Marschark, & M. Karchmer (Eds.), *Cognition, context, and deafness* (pp. 71-86). Washington, D.C.: Gallaudet University Press. [AN 1690]

This chapter addresses the future of research in deaf studies and deaf education. The first half concerns the current opportunities and challenges for research in deaf education and allied fields, together with some of the factors shaping the current and future research agendas. The second presents an informal study of priorities for investigation in the field, as seen by those most centrally involved in day-to-day educational and research activities.

Marschark, M. (2002). Educating deaf students of all ages: From early intervention to life-long learning. Taipei: Taiwan Association of the Deaf. [AN 1781]

As one looks at various countries around the world, including Taiwan and the United States, there are many differences in deaf education, in the understanding of strengths and needs of deaf children, and the visibility of the Deaf community within larger society.

Whatever else their goals, however, deaf people in all countries seek better support from educators and governments for deaf children and ways to optimize their educations and their future employment. These same goals are held by all parents of deaf children – whether deaf or hearing.

Marschark, M. (2000). Education and development of deaf children—or is it development and education? In P. Spencer, C. Erting, & M. Marschark (Eds.), *Development in context: The deaf children in the family and at school* (pp. 275-292). Mahwah, NJ: LEA. [AN 1686]

The purpose of this chapter is to examine some of the relations between development and education with particular regard to children who are deaf.

Marschark, M., Green, V., Hindmarsh, G., & Walker, S. (2000). Understanding theory of mind in children who are deaf. *Journal of Child Psychology and Psychiatry*, 41, 1067-1074. [AN 1727]

This study explored theory of mind by examining stories told by children who are deaf and hearing (age 9-15 years) for statements ascribing behaviour-relevant states of mind to themselves and others. Both groups produced such attributions, although there were reliable differences between them. Results are discussed in terms of the cognitive abilities assumed to underlie false belief and narrative paradigms and the implications of attributing theory of mind solely on the basis of performance on the false belief task.

Marschark, M., Richtsmeier, L., Richardson, J., Crovitz, H. & Henry, J. (2000). Intellectual and emotional functioning in college students following mild traumatic brain injury in childhood and adolescence. *Journal of Head Trauma Rehabilitation*, 15, 1227-1245. [AN 1780]

College students with a history of mild TBI in childhood or adolescence are intellectual unimpaired and approach their studying in a similar manner to their uninjured classmates. Nevertheless, they report more severe distress in terms of their general personal and emotional functioning.

Marschark, M. (2003). Cognitive functioning in deaf adults and children. In M. Marschark & P.E. Spencer (Eds.), *Oxford handbook of deaf studies, language, and education* (pp. 464-477). New York: Oxford University Press. [AN 1775]

Research on cognitive functioning in deaf individuals, like more specific topics such as intelligence or social functioning, could seem like a slippery slope within the field of deaf studies. That is, such research might be seen by some as having an outmoded or even sinister agenda. Recent studies, however, have obtained findings of significant theoretical and practical importance for parents and educators of deaf children and others who seek to discover how hearing loss and the use of a visuospatial language might influence social, language, and cognitive functioning.

Marschark, M., & Spencer, P. (2003). *Oxford handbook of deaf studies, language, and education*. New York: Oxford University Press. [Book]

A wide range of international experts present a comprehensive and accessible overview of the diverse field of deaf studies, language, and education. Pairing practical

information with detailed analyses of what works, why, and for whom, and banishing the paternalism once intrinsic to the field, the handbook consists of specially commissioned essays on topics such as language development, hearing and speech perception, education, literacy, cognition, and the complex cultural, social, and psychological issues associated with individuals who are deaf or hard of hearing.

Parasnis, I., Samar, V., & Berent, G. (2001,). Evaluating ADHD in the deaf population: Challenges to validity. *NTID Research Bulletin*, 6(1), 1, 3-5. [AN 1763]
Attention Deficit Hyperactivity Disorder (ADHD) is a highly heritable, neurobiological based disorder of attention and self-control that can seriously impair an individual's ability to learn and succeed in school. Our work underscores the need to carefully evaluate the validity of existing assessment instruments and test norms when developing a protocol to evaluate deaf individuals for ADHD.

Parasnis, I., Samar, V., & Berent, G. (2003). Deaf adults without attention deficit hyperactivity disorder display reduced perceptual sensitivity and elevated impulsivity on the Test of Variables of Attention (T.O.V.A). *Journal of Speech, Language, and Hearing Research*, 46, 1166-1183. [AN 1762]
The Test of Variables of Attention (T.O.V.A.) is a continuous performance test used widely to help diagnose attention deficit hyperactivity disorder (ADHD) in both hearing and deaf people. The T.O.V.A. previously has been normed only on the hearing population. The T.O.V.A. performance of 38 prelingually and severely-to-profoundly deaf young adults and 34 hearing young adults who did not have ADHD was examined in this study. Deaf and hearing participants did not differ on the T.O.V.A. omission variables. However, deaf participants had significantly lower d' scores than hearing participants, indicating reduced perceptual sensitivity to the distinction between target and distractor stimuli. Deaf participants also showed 2 to 3 times more commission errors than hearing participants and displayed a higher incidence of anticipatory errors. These results suggest a deafness-related increase in impulsivity at the time of response initiation. Separate factor analyses of the standard T.O.V.A. variables revealed highly similar factor structures for deaf and hearing participants, indicating similar construct validity of the T.O.V.A. for both groups. The evidence for increased inattention and impulsivity in a non-ADHD deaf sample are interpreted in the context of an adaptive attentional reorganization due to deafness. Along with the factor analytic results, these considerations suggest that separate T.O.V.A. norms must be developed for the deaf population to avoid overdiagnosis of ADHD in deaf individuals.

Richardson, J., Long, G., & Foster, S. (2004). Academic engagement in students with a hearing loss in distance education. *Journal of Deaf Studies and Deaf Education*, 9(1), 68-85. [AN1846]

This investigation compared 267 students with a hearing loss and 178 students with no declared form of disability who were taking courses by distance learning in terms of their scores on an abbreviated version of the Academic Engagement Form. Students with a hearing loss obtained lower scores than students with no disability with regard to communication with other students, but some felt that communication was easier than in a traditional academic situation. Students who were postvocally deaf had lower

scores than students with no disability on learning from other students, but they obtained higher scores on student autonomy and student control. In general, the impact of a hearing loss on engagement in distance education is relatively slight.

Richardson, J., MacLeod-Gallinger, J., McKee, B., & Long, G. (2000). Approaches to studying in deaf and hearing students in higher education. *Journal of Deaf Studies and Deaf Education*, 5(2), 158-173. [AN 1692]

A study was conducted to compare the responses of 149 deaf students and 121 hearing students taking the same courses to a shortened and adapted version of the Approaches to Studying Inventory. In general, the impact of deafness on approaches to studying are relatively slight, and deaf students appeared to be at least as capable as hearing students of engaging with underlying meaning of the materials to be learned. This book chapter discusses recent trends and advances in audiologic rehabilitation using computer-assisted instruction, computer-based audiologic rehabilitation (AR), computer-aided speechreading training (CAST), and other computer based technologies.

Samar, V., Parasnis, I., & Berent, G. (2002). Web site: learning disabilities, attention deficit disorders, and deafness: A resource page for parents, teachers, researchers, counselors, and deaf individuals with ADD. URL: www.rit.edu/~468www/LD

This web site shares information about relevant issues, existing resources, contemporary research, and useful publications on LD and ADHD in deaf children and adults. Links are provided to identification and assessment of LD and ADHD, and to remediation, instruction, management, and accommodation of children and adults with LD or ADHD. Extensive bibliographies of articles on LD and ADHD in the deaf population, and on articles and videos that discuss effective teaching methods are presented at the site along with informative summaries of their content.

Stinson, M., & Kluwin, T. (2003). Educational consequences of alternative school placements. In M. Marschark and P. Spencer (Eds.), *Oxford handbook of deaf studies, language, and education* (pp. 52-61). New York: Oxford University Press. [AN 1842]

In this chapter we discuss four categories of alternative placements: (1) separate schools, (2) resource rooms and separate classes, (3) general education classes, and (4) co-enrollment classes. Two questions that immediately arise regarding these options are, What are the differences in the experiences of students in these alternative placement types? What are the differences in the characteristics and attainments of students in these placement types? A more complex question is, Is it possible to relate these different educational experiences to characteristics and attainments of the students? That is, do different experiences produce different educational consequences? The second and third sections of this chapter consider the research that best answers these questions. The first section provides background, description, and conceptualization that aids understanding of the research that this chapter reviews and of thinking in the field in regard to alternative types of placement.