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Education: University of Illinois, B.S., 1971, Psychology
University of Minnesota, Ph.D, 1975, Psychology

Research and Professional Experience

National Science Foundation Graduate Fellow, Department of Psychology, University of Minnesota, Sept. 1971 - June 1974.

Predoctoral Associate, Center for Research in Human Learning, University of Minnesota, Sept. 1971 - June 1975.

Assistant Professor, Department of Psychology, University of Texas at Austin, July 1975-August 1981.

Associate Professor, Department of Psychology, University of Texas at Austin, Sept. 1981 - August 1988.

Professor, Department of Psychology, University of Texas at Austin, Sept. 1988 - present.

Visiting Lecturer, Instituto de Tecnológico y de Estudios Superióres, Monterrey, Mexico, June 1991, June 1992.

Visiting Research Scientist, Institute of Linguistics, Stockholm University, Jan.-Feb. 2000.

Chairman, Department of Psychology, September 1995 – August 1999.

Graduate Advisor, Department of Psychology, August 2006 – present.

Member, Center for Perceptual Systems, University of Texas at Austin, June 2001-present.

Publications

Till, R.E., Diehl, R.L., & Jenkins, J.J. (1975). Effects of semantic and nonsemantic cued orienting tasks on associative clustering in free recall. Memory & Cognition, 3, 19-23.

Diehl, R.L. (1975). The effect of selective adaptation on the identification of speech sounds. Perception & Psychophysics, 17, 48-52.

Diehl, R.L. (1976). Feature analyzers for the phonetic dimension stop vs. continuant. Perception & Psychophysics, 19, 267-272.

Diehl, R.L., & Rosenberg, D.M. (1977). Acoustic feature analysis in the perception of voicing contrasts. Perception & Psychophysics, 21, 418-422.

Elman, J.L., Diehl, R.L., & Buchwald, S.E. (1977). Perceptual switching in bilinguals. Journal of the Acoustical Society of America, 62, 971-974.

Gough, P.B., & Diehl, R.L. (1978). Experimental psycholinguistics. In W.O. Dingwall (Ed.), A survey of linguistic science (2nd ed.), pp. 247-266. Stamford, CT: Greylock Publishers.

Diehl, R.L., Elman, J.L., & McCusker, S.B. (1978). Contrast effects on stop consonant identification. Journal of Experimental Psychology: Human Perception and Performance, 4, 599-609.

Diehl, R.L., Lang, M., & Parker, E.M. (1980). A further parallel between selective adaptation and contrast. Journal of Experimental Psychology: Human Perception and Performance, 6, 24-44.

Diehl, R.L., Souther, A.F., & Convis, C.L. (1980). Conditions on rate normalization in speech perception. Perception & Psychophysics, 27, 435-443.

Diehl, R.L., & Kolodzey, K.F. (1980). The sound system of Spaka. Journal of the Acoustical Society of America, 67, 2112-2114.

Diehl, R.L., & Kolodzey, K.F. (1981). Spaka: A private language. Language, 57, 406-424.

Diehl, R.L. (1981). Feature detectors for speech: A critical reappraisal. Psychological Bulletin, 68, 1-18.

Diehl, R.L., McCusker, S.B., & Chapman, L.S. (1981). Perceiving vowels in isolation and in consonantal context. Journal of the Acoustical Society of America, 69, 239-248.

Parker, E.M., & Diehl, R.L. (1984). Identifying vowels in CVC syllables: Effects of inserting silence and noise. Perception & Psychophysics, 36, 369-380.

Diehl, R.L., Kluender, K.R., & Parker, E.M. (1985). Are selective adaptation and contrast effects really distinct? Journal of Experimental Psychology: Human Perception and Performance, 11, 209-220.

Diehl, R.L., Parker, E.M., & Kluender, K.R. (1985). On the pitfalls of "Ptolemaic" psychology: A reply to Sawusch and Mullennix. Journal of Experimental Psychology: Human Perception and Performance, 11, 251-256.

Diehl, R.L. (1986). Coproduction and direct perception of phonetic segments: A critique. Journal of Phonetics, 14, 61-66.

Parker, E.M., Diehl, R.L., & Kluender, K.R. (1986). Trading relations in speech and nonspeech. Perception & Psychophysics, 39, 129-142.

Diehl, R.L., & Kluender, K.R. (1987). On the categorization of speech sounds. In S. Harnad (ed.), Categorical perception, pp. 226-253. Cambridge: Cambridge University Press.

Diehl, R.L. (1987). Auditory constraints on speech perception. In M.E.H. Schouten (ed.), The psychophysics of speech perception, pp. 210-219. [NATO ASI Series, Series D, Behavioural and Social Sciences, No. 39]. Dordrecht: Martimus-Nijhoff.

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Kluender, K.R., Diehl, R.L., & Wright, B.A. (1988). Vowel-length differences before voiced and voiceless consonants: An auditory explanation. Journal of Phonetics, 16, 153-169.

Diehl, R.L., & Kluender, K.R. (1989). On the objects of speech perception. Ecological Psychology, 1, 121-144.

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Diehl, R.L. (1989). Remarks on Stevens' quantal theory of speech. Journal of Phonetics, 17, 71-78.

Diehl, R.L., & Walsh, M.A. (1989). An auditory basis for the stimulus-length effect in the perception of stops and glides. Journal of the Acoustical Society of America, 85, 2154-2164.

Blicher, D.L., Diehl, R.L., & Cohen, L.B. (1990). Effects of syllable duration on the perception of the Mandarin Tone 2/Tone 3 distinction: Evidence of auditory enhancement. Journal of Phonetics, 18, 1-13.

Diehl, R.L., Kluender, K.R., & Walsh, M.A. (1990). Some auditory bases of speech perception and production. In W.A. Ainsworth (ed.), Advances in speech, hearing and language processing (pp. 243-268). London: JAI Press.

Diehl, R.L., Kluender, K.R., Walsh, M.A., & Parker, E.M. (1991). Auditory enhancement in speech perception and phonology. In R.R. Hoffman & D.S. Palermo (eds.), Cognition and the symbolic processes, Vol 3: Applied and ecological perspectives (pp. 59-76). Hillsdale, NJ: Erlbaum.

Diehl, R.L., Walsh, M.A., & Kluender, K.R. (1991). On the interpretability of speech/nonspeech comparisons: A reply to Fowler. Journal of the Acoustical Society of America, 89, 2905-2909.

Walsh, M.A., & Diehl, R.L. (1991). Formant transition duration and amplitude rise time as cues to the stop/glide distinction. Quarterly Journal of Experimental Psychology, 43A, 603-620.

Diehl, R.L. (1991). Listener-oriented constraints on articulatory organization. Proceedings of the XIIth International Congress of Phonetic Sciences, Aix-en-Provence, France, August 19-24, 1991. Vol. 1, 92-96. (Invited semi-plenary paper).

Diehl, R.L. (1991). The role of phonetics in the study of language. Phonetica, 48, 120-134.

Diehl, R.L., & Kingston, J. (1991). Phonetic covariation as auditory enhancement: The case of the [+ voice]/[- voice] distinction. PERILUS: Papers from the Conference on Current Phonetic Research Paradigms: Implications for Speech Motor Control, Stockholm University, August 13-16, 1991.

Cohen, L.B., Diehl, R.L., Oakes, L.M., & Loehlin, J.C. (1992). Infant perception of /aba/ versus /apa/: Building a quantitative model of infant categorical discrimination. Developmental Psychology, 28, 261-272.

Hura, S.L., Lindblom, B., & Diehl, R.L. (1992). On the role of perception in shaping phonological assimilation rules. Language and Speech, 35, 59-72.

Hura, S.L., Lindblom, B., & Diehl, R.L. (1992). Some evidence that perceptual factors shape assimilations. Chalmers Technical Report 10, Göteborg, Sweden: Chalmers University of Technology, Department of Information Theory.

Balise, R.R., & Diehl, R.L. (1994). Some distributional facts about fricatives and a perceptual explanation. Phonetica, 51, 99-110.

Kingston, J., & Diehl, R.L. (1994). Phonetic knowledge. Language, 70, 419-454.

Hoemeke, K. A., & Diehl, R.L. (1994). Perception of vowel height: The role of F1-F0 distance. Journal of the Acoustical Society of America, 96, 661-674.

Diehl, R.L., & Molis, M.R. (1995). Effects of fundamental frequency on medial [voice] judgments. Phonetica, 52, 188-195.

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Diehl, R.L., Lindblom, B., Hoemeke, K.A., & Fahey, R.P. (1996). On explaining certain male-female differences in the phonetic realization of vowel categories. Journal of Phonetics, 24, 187-208.

Fahey, R.P., Diehl, R.L., & Traunmüller, H. (1996). Perception of back vowels: Effects of varying F1-F0 distance. Journal of the Acoustical Society of America, 99, 2350-2357.

Fahey, R.P. & Diehl, R.L. (1996). The missing fundamental in vowel height perception. Perception & Psychophysics,58, 725-733.

Castleman, W.A. & Diehl, R.L. (1996). Effects of fundamental frequency on medial and final [voice] judgments. Journal of Phonetics, 24, 383-398.

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Simos, P.G., Diehl, R.L., Breier, J.I., Molis, M.R., Zouridakis, G., & Papanicolaou, A.C. (1998). MEG correlates of categorical perception of a voice onset time continuum in humans. Cognitive Brain Research, 7, 215-219.

Molis, M. R., Diehl, R.L. & Jacks, A. (1998). Phonological boundaries and the spectral center of gravity. Proceedings of the 16th International Congress on Acoustics and the 135th Meeting of the Acoustical Society of America, 2019-2020.

Wong, P.C.M. & Diehl, R.L. (1998). Effect of spectral distance on vowel perception. Proceedings of the 16th International Congress on Acoustics and the 135th Meeting of the Acoustical Society of America, 2015-2016.

Redford, M.A. & Diehl, R.L. (1999). The relative perceptual distinctiveness of initial and final consonants in CVC syllables. Journal of the Acoustical Society of America, 106, 1555-1565.

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Diehl, R.L. (2000). Searching for an auditory description of vowel categories. Phonetica, 57, 267-274.

Diehl, R.L., Molis, M.R., & Castleman, W.A. (2001). Adaptive design of sound systems: Some auditory considerations. In K. Johnson & E. Hume (eds.), The Role of Perceptual Phenomena in Phonological Theory (pp. 123-139). San Diego: Academic Press.

Maddox, W.T., Diehl, R.L., & Molis, M.R. (2001). Generalizing a neuropsychological model of visual categorization to auditory categorization of vowels. In R. Smits, J. Kingston, T.M. Nearey & R. Zondervan (eds.), Proceedings of the Workshop on Speech Recognition as pattern Classification, Nijmegen, July 11-13, 85-90.

Breier, J.I., Gray, L., Fletcher, J.M., Diehl, R.L., Klaas, P., Foorman, B.R., & Molis, M.R. (2001). Perception of voice and tone onset time continua in children with dyslexia with and without attention deficit/hyperactivity disorder. Journal of Experimental Child Psychology, 80, 245-270.

Maddox, W.T., Molis, M.R., & Diehl, R.L. (2002). Generalizing a neuropsychological model of visual categorization to auditory categorization of vowels. Perception & Psychophysics, 64, 584-597.

Geisler, W.S. & Diehl, R.L. (2002). Bayesian natural selection and the evolution of perceptual systems. Philosophical Transactions of the Royal Society of London: Biological Science, 357, 419-448.

Wong, P.C.M. & Diehl, R.L. (2002). How can the lyrics of a song in a tone language be understood. Psychology of Music, 30, 202-209.

Wong, P.C.M. & Diehl, R.L. (2003). Perceptual normalization for inter- and intra-talker variation in Cantonese. Journal of Speech, Language, and Hearing Research, 46, 413-421.

Geisler, W.S. & Diehl, R.L. (2003). A Bayesian approach to the evolution of perceptual and cognitive systems. Cognitive Science, 118, 1-24.

Papanicolaou, A.C., Simos, P.G., Castillo, E., Breier, J.I., Davis, R.N., & Diehl, R.L. (2003). Differential brain activation patterns during perception of voice and tone onset time series: A MEG study. Neuroimage, 18, 448-459.

Diehl, R.L., Lindblom, B., & Creeger, C.P. (2003). Increasing realism of auditory representations yields further insights into vowel phonetics. Proceedings of the 15th International Congress of Phonetic Sciences, Vol. 2, pp. 1381-1384. Adelaide: Causal Publications.

Diehl, R.L., Lotto, A.J., & Holt, L.L. (2004). Speech Perception. Annual Review of Psychology, 55, 06.149-179.

Diehl, R.L. & Lindblom, B. (2004). Explaining the structure of feature and phoneme inventories. In S. Greenberg, W. Ainsworth, A. Popper, & R. Fay (eds.), Speech Processing in the Auditory System (pp. 101-162). New York: Springer-Verlag.

Holt, L.L., Lotto, A.J., & Diehl, R.L. (2004). Auditory discontinuities interact with categorization: Implications for speech perception. Journal of the Acoustical Society of America, 116, 1763-1773.

Wong, P.C.M, Parsons, L.M., Martinez, M., & Diehl, R.L. (2004). The role of the insular cortex in pitch pattern perception: The effect of linguistic contexts. Journal of Neuroscience, 24, 9153-9160.

Hay, J.F., Sakamoto, M., Coren, A.E., Moran, C.L., & Diehl, R.L. (2006). Enhanced contrast for vowels in utterance focus: A cross-language study. Journal of the Acoustical Society of America, 119, 3022-3033.

Hay, J.F. & Diehl, R.L. (2007). Perception of rhythmic grouping: Testing the Iambic/Trochaic Law. Perception & Psychophysics, 69, 113-122.

Diehl, R.L. (2008). Acoustic and auditory phonetics: The adaptive design of speech sound systems. Philosophical Transactions of the Royal Society of London B, 363, 965-978.

Kingston, J., Diehl, R.L., Kirk, C.J., & Castleman, W.A. (2008). On the internal perceptual structure of distinctive features: The [voice] contrast. Journal of Phonetics, 36, 28-54.

Lindblom, B., Diehl, R.L., Park, S.-H., & Salvi, G. (2008). (Re)use of place features in voiced stop systems: Role of phonetic constraints. Proceedings of FONETIK 2008, Department of Linguistics, University of Gothenberg.

Lindblom, B., Diehl, R.L., & Creeger, C.P. (in press). Do 'Dominant Frequencies' explain the listener's response to formant and spectrum shape variations? To appear in a festschrift volume for Rolf Carlson and Björn Granström.

Garcia-Sierra, A., Diehl, R.L., & Champlin, C. (in press). Testing the double phonemic boundary in bilinguals. *Speech Communication.*

Lindblom, B., Diehl, R., & Park, S-H., Salvi, G. (in press). Sound systems are shaped by their users: The recombination of phonetic substance. *Speech Communication*.

Book Reviews

Diehl, R.L. (1980). Review of Speech perception and production: Studies in selective adaptation, by William E. Cooper. Contemporary Psychology, 25, 982-983.

Diehl, R.L. (1981). Review of Aging and the perception of speech, by M. Bergman. Contemporary Psychology, 26, 401.

Edited Journal Special Issues

Diehl, R.L. (1991). (Guest Editor). On the relation between phonetics and phonology. Phonetica (Special Issue), 48/2-4/91.

Diehl, R.L. (1992). (Guest Editor). Articulatory phonology. Phonetica (Special Issue), 49/3-4/92.

Barry, W., Diehl, R.L., & Kohler, K. (1993) (Guest Editors). Prosody and information structure. Phonetica (Special Issue), 50/3/93.

Diehl, R.L., Engstrand, O., Kingston, J. & Kohler, K. (2000). (Guest Editors). Emergence and adaptation: Studies in speech communication and language development. Phonetica (Special Issue), 57/2-4/00

Grants

1975-1976, BSRG Research Grant, University of Texas ($2000).

Summer 1976, URI Research Award, University of Texas (salary).

1976-1978, BSRG Research Grant, University of Texas ($2000).

1977-1980, N.I.H., National Institute for Neurological and Communicative Disorders and Stroke, "Selective adaptation to speech sounds," ($57,800 Direct Costs).

1980-1983, N.I.H., National Institute for Neurological and Communicative Disorders and Stroke, " The production and perception of vowels," ($160,000 Direct Costs).

1984-1987, N.I.H., National Institute for Child Health and Human Development, "Perception of rhythm and speech in infants," Leslie Cohen, Co-P.I., ($214,000 Direct Costs).

1987-1988, BSRG Research Grant, Unversity of Texas ($10,000).

1988-1992, N.I.H., National Institute of Neurological and Communicative Disorders and Stroke, "Auditory factors in speech perception," ($382,000 Direct Costs).

1990-1992, Texas Advanced Research Program, " Auditory bases of speech recognition: Applications of a computational model," Björn Lindblom, Co-P.I., ($40,000).

1992-1993, BSRG Research Grant, University of Texas ($4,990).

1992-1995, N.I.H., National Institute on Deafness and Other Communication Disorders, "Auditory factors in speech perception," ($362, 000 Direct Costs).

1995-2001, N.I.H., National Institute on Deafness and Other Communication Disorders, “Auditory factors in speech perception,” ($665, 000 Direct Costs).

2000-2002, N.S.F. Dissertation Research Grant to Randy L. Diehl and Patrick C.M.Wong($12,000).

2001-2006, N.I.H., National Institute on Deafness and Other Communication Disorders,“Auditory factors in speech production and perception,” ($1,100,000 Direct Costs).

2004-2006, N.S.F., "Learning complex auditory categories." Diehl is the P.I. of a subcontract between Carnegie Mellon University and the University of Texas at Austin ($15,300). Lori L. Holt is the P.I. of the grant.

2007-2012, N.I.H., National Institute on Deafness and Other Communication Disorders, "Auditory and cognitive factors in speech perception and auditory cognition," ($1,125,000 Direct Costs).

Awards

1976 Psi Chi Teaching Excellence Award
1984-1985 President's Associates Teaching Excellence Award
1994 Parent's Association Centennial Teaching Fellowship (served in Spring 1995)
1999 Outstanding Faculty Award, UT-Austin Division of Continuing Education

Member

Acoustical Society of America, Fellow
Linguistic Society of America
Society for Neuroscience
International Society for Ecological Psychology

Editorships

1986 - 1988, Consulting Editor, Journal of Experimental Psychology: Human Perception and Performance.

1989 - 1999, North American Editor, Phonetica.

2003 – present, Editorial Board, Phonetica.

1995 - 2000, Consulting Editor, Perception & Psychophysics

2002 - 2006, Associate Editor, Journal of the Acoustical Society of America