

CURRICULUM VITAE

Gabriele Wulf

EDUCATION

Habilitation (Dr. phil. habil.), University of Munich	1993
Doctor of Sport Sciences (Dr. Sportwiss.), Deutsche Sporthochschule Köln	1986
Diplom (Sport Sciences), Deutsche Sporthochschule Köln	1982

ACADEMIC APPOINTMENTS

Professor, Department of Kinesiology, University of Nevada, Las Vegas	2005-pres.
Associate Professor, Department of Kinesiology, University of Nevada, Las Vegas	2001-2005
Lecturer, Department of Psychology, University of Reading (UK)	2000-2001
Senior Research Scientist, Max Planck Institute for Psychological Research, Munich, Germany	1990-1999
Visiting Associate Professor, Texas A&M University	Spring 1999 Spring 1998 Spring 1997
Lecturer, Department of Health, Physical Education, and Recreation, California State Polytechnic University, Pomona	1990
Staff Research Associate, Department of Psychology, University of California, Los Angeles	1989-1990
Research Assistant Professor, Department of Safety Science, University of Southern California, Los Angeles	1988-1989
Post-Doctoral Research Fellow (with Richard A. Schmidt), Department of Kinesiology, University of California, Los Angeles	1986-1988
Instructor, Department of Psychology, Deutsche Sporthochschule Köln	1986

PROFESSIONAL ACTIVITIES

Section Editor, Motor Control/Learning	<i>Research Quarterly for Exercise and Sport</i> (2003-pres.)
Section Editor, Motor Behavior	<i>Women in Sport and Physical Activity Journal</i> (2002-2005)
Consulting Editor	<i>Journal of Motor Behavior</i> (1992-2004)

Editorial Board Member
Zeitschrift für Physiotherapeuten (2007-pres.)
Journal of Motor Behavior (2005-2008)
International Journal of Fitness (2005-2008)
Human Movement Science (1999-pres.)
Women in Sport and Physical Activity Journal (1995-2002)

International Advisory Board Member
Physiotherapy

HONORS AND AWARDS

Research Writing Award, for an outstanding paper published in *Research Quarterly for Exercise and Sport*, 2000, Volume 71, awarded by the Research Consortium of the *American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD)*.

Secretary/Treasurer – *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, 2002-2004.

Keynote lecturer, 4th Congress of the *Asian-South Pacific Association of Sport Psychology*, Seoul, South Korea, June 2003: “Enhancing the learning of sport skills through an external focus of attention”.

Distinguished Scholar Award 2003, School of Health and Human Sciences, University of Nevada, Las Vegas.

Slaughter Lecturer 2004, University of Virginia: “Attentional focus effects on the learning and control of motor skills”. Charlottesville, VA, March 23, 2004.

Distinguished Scholar Award 2007, School of Allied Health Sciences, University of Nevada, Las Vegas.

GRANTS

Post-doctoral grant (Wulf, G.), German Science Foundation: DM 98,000; 1986-1988.

Travel grants (Wulf, G.), German Science Foundation: DM 9,000; 1988-1999.

Lectureship, Texas A&M University (Wulf, G.), German Academic Exchange Service: DM 9,990; 1997.

“Optimizing the learning of sport skills” (Wulf, G., & Prinz, W.), German Science Foundation: DM 450,000; 1996-1999.

“Enhancing motor learning in children with Developmental Coordination Disorder” (Wulf, G.), University of Reading, 3-year PhD studentship: £ 36,000; 2000-2003.

“The influence of attentional focus on the effectiveness of feedback in motor skill learning” (Wulf, G.), Economic and Social Research Council, UK: £ 35,000; 2000-2001.

- “The influence of attentional focus on the effectiveness of feedback in motor skill learning” (Wulf, G.), Stimulation, Implementation, Transition and Enhancement (SITE) grant, UNLV: \$ 4,911; 2002-2003.
- “An Efficacy Assessment of *The First Tee* Life Skills Program” (Guadagnoli, M., Holcomb, W., & Wulf, G.), *The First Tee*: \$ 103,000; 2003.
- “Attentional focus training to enhance balance in individuals with Parkinson’s disease” (Wulf, G., & Landers, M.), American Parkinson Disease Association: \$ 50,000; 2004-2005.
- “Enhancing limb and speech motor control: Effects of attentional focus and self-controlled feedback” (Wulf, G., Schulz, G., Robin, D.A., Solomon, N., & Strand, E.), School of Health and Human Sciences Research Council: \$ 7,000; 2006-2007.

PUBLICATIONS

Books

1. Wulf, G. (2009). *Aufmerksamkeit und motorisches Lernen (Attention and motor learning)*. München: Elsevier.
2. Wulf, G. (2007). *Attention and motor skill learning*. Champaign, IL: Human Kinetics.
3. Wulf, G. (1994). *Zur Optimierung motorischer Lernprozesse (Optimizing motor learning)*. Schorndorf: Hofmann.

Journal articles

1. Chiviawosky, S. Wulf, G., Wally, R., & Borges, T. (in press). KR after good trials enhances learning in the elderly. *Research Quarterly for Exercise and Sport*.
2. Lewthwaite, R., & Wulf, G. (in press). Social-comparative feedback affects motor skill learning. *Quarterly Journal of Experimental Psychology*.
3. Wulf, G., Chiviawosky, S., Lewthwaite, R. (in press). Normative feedback effects on the learning of a timing task. *Research Quarterly for Exercise and Sport*.
4. Wulf, G., & Dufek, J.S. (in press). Increased jump height with an external attentional focus is due to augmented force production. *Journal of Motor Behavior*.
5. Wulf, G., & Lewthwaite, R. (in press). Attentional and motivational influences on motor performance and learning. In A. Mornell (Ed.), *Art in Motion: Musical and Athletic Motor Learning and Performance*. Frankfurt am Main: Peter Lang.
6. Wulf, G., & Lewthwaite, R. (in press). Conceptions of ability affect motor learning. *Journal of Motor Behavior*.
7. Wulf, G., & Lewthwaite, R. (in press). Effortless motor learning? An external focus of attention enhances movement effectiveness and efficiency. In B. Bruya (Ed.), *Effortless Attention: A New Perspective in the Cognitive Science of Attention and Action*. Cambridge, MA: MIT Press.
8. Wulf, G., & Lewthwaite, R. (in press). Motorisches Lernen. In C. Zalpour (Ed.), *Lexikon Physiotherapie*. Heidelberg, Germany: Springer Verlag.

9. Wulf, G., & Shea, C.H. (in press). Motor skill learning and performance: A review of influential factors. *Medical Education*.
10. Wulf, G., Landers, M., Lewthwaite, R., & Töllner, T. (2009). External focus instructions reduce postural instability in individuals with Parkinson disease. *Physical Therapy*, 89, 162-168.
11. Wulf, G., Lewthwaite, R., Landers, M., & Töllner, T. (2009). The power of external focus instructions to enhance performance and learning. *Physical Therapy*, 89, 170-172.
12. Chiviawsky, S., Wulf, G., Laroque de Medeiros, F., & Kaefer, A. (2008). Learning benefits of self-controlled knowledge of results in 10-year old children. *Research Quarterly for Exercise and Sport*, 79, 405-410.
13. Chiviawsky, S., Wulf, G., Laroque de Medeiros, F., Kaefer, A., & Wally, R. (2008). Self-controlled feedback in children: Higher feedback frequencies enhance learning. *Research Quarterly for Exercise and Sport* 79, 122-127.
14. Maas, E., Robin, D.A., Austermann Hula, S.N., Freedman, S.E., Wulf, G., Ballard, K.J., & Schmidt, R.A. (2008). Principles of motor learning in treatment of motor speech disorders. *American Journal of Speech-Language Pathology*, 17, 277-298.
15. Wulf, G. (2008). Attentional focus effects in balance acrobats. *Research Quarterly for Exercise and Sport*, 79, 319-325.
16. Wulf, G., & Mornell, A. (2008) Demystifying the practice of practice: Motor learning research and its ramifications for the training of musicians. *Music Performance Research*, 2. Retrieved October, 2008, from <http://www.mpr-online.net/>
17. Chiviawsky, S., & Wulf, G. (2007). Feedback after good trials enhances learning. *Research Quarterly for Exercise and Sport*, 78, 40-47.
18. Freedman, S.E., Maas, E., Caligiuri, M.P., Wulf, G., & Robin, D.A. (2007). Internal vs. external: Oral-motor performance as a function of attentional focus. *Journal of Speech, Language, and Hearing Science*, 50, 131-136.
19. Granados, C., & Wulf, G. (2007). Enhancing motor learning through dyad practice: Contributions of observation and dialogue. *Research Quarterly for Exercise and Sport*, 78, 197-203.
20. Wulf, G. (2007). Attentional focus and motor learning: A review of 10 years of research (Target article). *E-Journal Bewegung und Training*, 1-11. Retrieved October 16, 2008, from http://www.ejournal-but.de/doks/wulf_2007.pdf
21. Wulf, G. (2007). Methods, findings, explanations, and future directions: Response to commentaries on "Attentional focus and motor learning". *E-Journal Bewegung und Training*, 57-64. Retrieved October 16, 2008, from http://www.ejournal-but.de/doks/wulf_2007.pdf
22. Wulf, G. (2007). Response to Keith Davids' commentary. *International Journal of Sports Science & Coaching*, 2, 289-292.
23. Wulf, G. (2007). Motorisches Lernen, Teil 1 (Motor learning, Part 1). *Physiopraxis Refresher*, 5, 3-11.

24. Wulf, G. (2007). Motorisches Lernen, Teil 2 (Motor learning, Part 2). *Physiopraxis Refresher*, 5, 3-13.
25. Wulf, G. (2007). Motorisches Lernen. *Bewegung und Entwicklung*, 30, 11-26.
26. Wulf, G. (2007). Motorisches Lernen: Einflussgrößen und ihre Optimierung (Motor learning: Influential factors and how to optimize them). In C. Dettmers, P. Bülow, & C. Weiller (Eds.), *Schlaganfall Rehabilitation (Stroke rehabilitation)* (pg. 3-24). Bad Honnef: Hippocampus-Verlag.
27. Wulf, G. (2007). Motorisches Lernen – Therapie-relevante Forschungsergebnisse (Motor learning – Therapy-relevant research results). *Ergoscience*, 2, 47-55.
28. Wulf, G. (2007). Self-controlled practice enhances motor learning: Implications for physiotherapy. *Physiotherapy*, 93, 96-101.
29. Wulf, G., & Su, J. (2007). An external focus of attention enhances golf shot accuracy in beginners and experts. *Research Quarterly for Exercise and Sport*, 78, 384-389.
30. Wulf, G., Töllner, T., & Shea (2007). Attentional focus effects as a function of task complexity. *Research Quarterly for Exercise and Sport*, 78, 257-264.
31. Wulf, G., Zachry, T., Granados, C., & Dufek, J.S. (2007). Increases in jump-and-reach height through an external focus of attention. *International Journal of Sports Science & Coaching*, 2, 275-284.
32. Van Vliet, P., & Wulf, G. (2006). Extrinsic feedback for motor learning after stroke: What is the evidence? *Disability and Rehabilitation*, 28, 831-840.
33. Chiviakowsky, S., & Wulf, G. (2005). Self-controlled feedback is effective if it is based on the learner's performance. *Research Quarterly for Exercise and Sport*, 76, 42-48.
34. Landers, M., Wulf, G., Wallmann, H., & Guadagnoli, M.A. (2005). An external focus of attention attenuates balance impairment in Parkinson's disease. *Physiotherapy*, 91, 152-185.
35. Shea, C.H., & Wulf, G. (2005). Schema theory: A critical appraisal and reevaluation. *Journal of Motor Behavior*, 37, 85-101.
36. Wulf, G. (2005). Movement efficiency and attentional focus. *International Journal of Fitness*, 1, 25-29.
37. Wulf, G., Raupach, M., & Pfeiffer, F. (2005). Self-controlled observational practice enhances learning. *Research Quarterly for Exercise and Sport*, 76, 107-111.
38. Zachry, T., Wulf, G., Mercer, J., & Bezodis, N. (2005). Increased movement accuracy and reduced EMG activity as the result of adopting an external focus of attention. *Brain Research Bulletin*, 67, 304-309.
39. Vance, J., Wulf, G., Töllner, T., McNevin, N.H., & Mercer, J. (2004). EMG activity as a function of the performer's focus of attention. *Journal of Motor Behavior*, 36, 450-459.
40. Wulf, G., Mercer, J., McNevin, N.H., & Guadagnoli, M.A. (2004). Reciprocal influences of attentional focus on postural and supra-postural task performance. *Journal of Motor Behavior*, 36, 189-199.

41. Wulf, G., & Shea, C.H. (2004). Understanding the role of augmented feedback: The good, the bad, and the ugly. In A.M. Williams, & N.J. Hodges (Eds.), *Skill acquisition in sport: Research, theory and practice* (pp. 121-144). London: Routledge.
42. McNevin, N.H., Shea, C.H., & Wulf, G. (2003). Increasing the distance of an external focus of attention enhances learning. *Psychological Research*, 67, 22-29.
43. Totsika, V., & Wulf, G. (2003). An external focus of attention enhances transfer to novel situations and skills. *Research Quarterly for Exercise and Sport*, 74, 220-225.
44. Wulf, G., & McNevin, N.H. (2003). Simply distracting learners is not enough: More evidence for the learning benefits of an external focus of attention. *European Journal of Sport Science*, 3 (5).
45. Wulf, G. (2003). Enhancing the learning of sport skills through an external focus of attention. Proceedings of the 4th Congress of the *Asian-South Pacific Association of Sport Psychology* (pp. 169-172), Seoul, South Korea.
46. Wulf, G., Mercer, J., McNevin, N.H., & Guadagnoli, M.A. (2003). Reciprocal influences of attentional focus on postural and supra-postural task performance. Proceedings of the 4th Congress of the *Asian-South Pacific Association of Sport Psychology* (pp. 187-190), Seoul, South Korea.
47. Wulf, G., Wächter, S., & Wortmann, S. (2003). Attentional focus in motor skill learning: Do females benefit from an external focus? *Women in Sport and Physical Activity Journal*, 12, 37-52.
48. Wulf, G., Weigelt, M., Poulter, D.R., & McNevin, N.H. (2003). Attentional focus on supra-postural tasks affects balance learning. *Quarterly Journal of Experimental Psychology*, 56, 1191-1211.
49. Chiviakowsky, S., & Wulf, G. (2002). Self-controlled feedback: Does it enhance learning because performers get feedback when they need it? *Research Quarterly for Exercise and Sport*, 73, 408-415.
50. Guadagnoli, M.A., McNevin, N., & Wulf, G. (2002). Cognition influences to balance and posture. *Orthopaedic Physical Therapy Clinics of North America*, 11, 131-141.
51. McNevin, N.H., & Wulf, G. (2002). Attentional focus on supra-postural tasks affects postural control. *Human Movement Science*, 21, 187-202.
52. Wulf, G., McConnel, N., Gärtner, M., & Schwarz, A. (2002). Feedback and attentional focus: Enhancing the learning of sport skills through external-focus feedback. *Journal of Motor Behavior*, 34, 171-182.
53. Wulf, G., & Shea, C.H. (2002). Principles derived from the study of simple motor skills do not generalize to complex skill learning. *Psychonomic Bulletin and Review*, 9, 185-211.
54. McNevin, N.H., Wulf, G., & Carlson, C. (2001). Come accrescere l'efficacia delle tecniche riabilitative, *Il fisioterapista*, 7, n. 4.
55. Shea, C.H., Wulf, G., Park, J.-H., & Gaunt, B. (2001). Effects of an auditory model on the learning of relative and absolute timing. *Journal of Motor Behavior*, 33, 127-138.

56. Shea, C.H., Wulf, G., Whitacre, C., & Park, J.-H. (2001). Surfing the implicit wave. *Quarterly Journal of Experimental Psychology*, 54A, 841-862.
57. Wulf, G., Clauss, A., Shea, C.H., & Whitacre, C. (2001). Benefits of self-control in dyad practice. *Research Quarterly for Exercise and Sport*, 72, 299-303.
58. Wulf, G., McNevin, N.H., & Shea, C.H. (2001). The automaticity of complex motor skill learning as a function of attentional focus. *Quarterly Journal of Experimental Psychology*, 54A, 1143-1154.
59. Wulf, G., & Prinz, W. (2001). Directing attention to movement effects enhances learning: A review. *Psychonomic Bulletin & Review*, 8, 648-660.
60. Wulf, G., Shea, C.H., & Park, J.-H. (2001). Attention in motor learning: Preferences for and advantages of an external focus. *Research Quarterly for Exercise and Sport*, 72, 335-344.
61. Lai, Q., Shea, C.H., Wulf, G., & Wright, D. (2000). Optimizing generalized motor program and parameter learning. *Research Quarterly for Exercise and Sport*, 71, 10-24.
62. McNevin, N.H., Wulf, G., & Carlson, C. (2000). Effects of attentional focus, self-control, and dyad training effects on motor learning: Implications for physical rehabilitation. *Physical Therapy*, 80, 373-385.
63. Shea, C.H., Wright, D.L., Wulf, G., & Whitacre, C. (2000). Physical and observational practice afford unique learning opportunities. *Journal of Motor Behavior*, 32, 27-36.
64. Wulf, G., McNevin, N.H., Fuchs, T., Ritter, F., & Toole, T. (2000). Attentional focus in complex motor skill learning. *Research Quarterly for Exercise and Sport*, 71, 229-239.
65. Wulf, G., & Prinz, W. (2000). Bewegungslernen und Instruktionen – Zur Effektivität ausführung- vs. effektbezogener Aufmerksamkeitsfokussierungen. *Sportwissenschaft*, 30, 289-297.
66. Shea, C.H., & Wulf, G. (1999). Enhancing motor learning through external-focus instructions and feedback. *Human Movement Science*, 18, 553-571.
67. Shea, C.H., Wulf, G., Whitacre, C.A. (1999). Enhancing training efficiency and effectiveness through the use of dyad training. *Journal of Motor Behavior*, 31, 119-125.
68. Wulf, G. (1999). Attentional focus and motor skill learning. *Proceedings of the 20th Annual Conference in Movement Science* (p. 1-11). Teachers College, Columbia University, New York.
69. Wulf, G., & Toole, T. (1999). What to focus your attention on in golf. *Golf Research News*, 1, 11-19.
70. Wulf, G., Hörger, M., & Shea, C.H. (1999). Benefits of blocked over serial feedback in complex motor skill learning. *Journal of Motor Behavior*, 31, 95-103.
71. Wulf, G., Lauterbach, B., & Toole, T. (1999). Learning advantages of an external focus of attention in golf. *Research Quarterly for Exercise and Sport*, 70, 120-126.
72. Wulf, G., McNevin, N., Shea, C.H., & Wright, D. (1999). Learning phenomena: Future challenges for the dynamical systems approach to understanding the learning of complex motor skills. *International Journal of Sport Psychology*, 30, 531-557.

73. Wulf, G., & Toole, T. (1999). Physical assistance devices in complex motor skill learning: Benefits of a self-controlled practice schedule. *Research Quarterly for Exercise and Sport*, 70, 265-272.
74. Wulf, G. (1998). Bewußte Kontrolle stört Bewegungslernen. *Spektrum der Wissenschaft*, April, (4), 16-22.
75. Wulf, G. (1998). Bewußte Kontrolle stört Bewegungslernen. *LIP - Info*, (2), 5-7.
76. Wulf, G., Höß, M., & Prinz, W. (1998). Instructions for motor learning: Differential effects of internal versus external focus of attention. *Journal of Motor Behavior*, 30, 169-179.
77. Wulf, G., Shea, C.H., & Matschiner, S. (1998). Frequent feedback enhances complex motor skill learning. *Journal of Motor Behavior*, 30, 180-192.
78. Wulf, G., Shea, C.H., & Whitacre, C.A. (1998). Physical guidance benefits in learning a complex motor skill. *Journal of Motor Behavior*, 30, 367-380.
79. Wulf, G., Shea, C.H., & Wright, D.L. (1998). Möglichkeiten der Effektivierung des Übens in der Musik aus der Sicht der motorischen Lernforschung. *Musikpädagogische Forschungsberichte*, 208-221.
80. Schmidt, R.A., & Wulf, G. (1997). Continuous concurrent feedback degrades skill learning: Implications for training and simulation. *Human Factors*, 39, 509-525.
81. Wrisberg, C.A., & Wulf, G. (1997). Diminishing the effects of reduced frequency of knowledge of results on generalized motor program learning. *Journal of Motor Behavior*, 29, 17-26.
82. Wulf, G., & Schmidt, R.A. (1997). Variability of practice and implicit motor learning. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 23, 987-1006.
83. Wulf, G., & Weigelt, C. (1997). Instructions in learning a complex motor skill: To tell or not to tell... *Research Quarterly for Exercise and Sport*, 68, 362-367.
84. Schmidt, R.A., & Wulf, G. (1996). Augmented concurrent feedback degrades learning: Implications for training and simulation. *Proceedings of the Human Factors and Ergonomics Society 40th Annual Meeting*, Vol. 2 (pp. 1051-1054). Santa Monica, CA: Human Factors and Ergonomics Society.
85. Wulf, G. (1996). Instructions can degrade motor skill learning. In P. Marconnet, J. Gaulard, I. Margaritis, & F. Tessier (Eds.), *Book of Abstracts - European Congress of Sport Science* (pp. 220-221), Nizza.
86. Wulf, G. (1996). Niedergang der deutschen Sportwissenschaft? *DVS-Informationen*, 2, 37-38.
87. Wulf, G. (1996). Einige Vorschläge zur Verhinderung eines "Niedergangs der deutschen Sportwissenschaft". *DVS-Informationen*, 4, 44-45.
88. Wulf, G., & Schmidt, R.A. (1996). Average KR degrades parameter learning. *Journal of Motor Behavior*, 28, 371-381.
89. Wulf, G., Shea, J.B., & Rice, M. (1996). Type of KR and KR frequency effects on motor learning. *Journal of Human Movement Studies*, 30, 1-18.

90. Wulf, G., & Weigelt, C. (1996). Instruktion oder "Intuition" beim Bewegungslernen? In J.R. Nitsch & H. Allmer (Eds.), *Handeln im Sport – Zwischen Rationalität und Intuition* (pp. 77-84). Köln: bps-Verlag.
91. Wulf, G. (1995). Lernen von generalisierten motorischen Programmen und Bewegungsparametern. *Psychologische Beiträge*, 37, 498-537.
92. Wulf, G. (1995). Lernen von generalisierten motorischen Programmen und Bewegungsparametern. In L. Jäncke & H. Heuer (Eds.), *Interdisziplinäre Bewegungsforschung* (pp. 498-537), Lengerich: Pabst.
93. Wulf, G., Horstmann, & Choi, B. (1995). Does mental practice work like physical practice without information feedback? *Research Quarterly for Exercise and Sport*, 66, 262-267.
94. Wulf, G., & Schmidt, R.A. (1995). Implizites Lernen motorischer Fertigkeiten. In J. Krug & H.-J. Minow (Eds.), *Sportliche Leistung und Training* (pp. 165-168). St. Augustin: Academia.
95. Wulf, G. (1994). *Zur Optimierung motorischer Lernprozesse*. Schorndorf: Hofmann.
96. Wulf, G. (1994). Wie wirkt mentales Training? - Auswirkungen auf das Lernen von generalisierten motorischen Programmen und Bewegungsparametern. In P. Blaser, C. Stucke, & K. Witte (Eds.), *Steuer- und Regelvorgänge der menschlichen Motorik* (pp. 134-137). Sankt Augustin: Academia.
97. Wulf, G. (1994). Mangelnde Effizienz herkömmlicher Trainingsmethoden für das Bewegungslernen. *Spektrum der Wissenschaft*, (2), 24-25.
98. Wulf, G., Lee, T.D., & Schmidt, R.A. (1994). Reducing knowledge of results about relative versus absolute timing: Differential effects on learning. *Journal of Motor Behavior*, 26, 362-369.
99. Wulf, G., & Schmidt, R.A. (1994). Contextual-interference effects in motor learning: Evaluating a KR-usefulness hypothesis. In J.R. Nitsch & R. Seiler (Eds.), *Bewegung und Sport - Psychologische Grundlagen und Wirkungen, Band 2: Bewegungsregulation und motorisches Lernen* (pp. 304-309). Sankt Augustin: Academia.
100. Wulf, G. & Schmidt, R.A. (1994). Feedback-induced variability and the learning of generalized motor programs. *Journal of Motor Behavior*, 26, 348-361.
101. MacKay, D.G., Wulf, G., Yin, C., Abrams, L. (1993). Relations between word perception and production: New theory and data on the Verbal Transformation Effect. *Journal of Memory and Language*, 32, 624-646.
102. Wulf, G. (1993). Implizites Lernen von Regelmäßigkeiten. *Sportpsychologie*, 7, 11-18.
103. Wulf, G., & Lee, T.D. (1993). Contextual interference effects in movements of the same class: Differential effects on program and parameter learning. *Journal of Motor Behavior*, 25, 254-263.
104. Wulf, G. & Schmidt, R.A. (1993). Toward general principles of training across task domains. (Review of J.E. Morrison (Ed.), "Training for performance - Principles of applied human learning"). *American Journal of Psychology*, 106, 609-616.

105. Wulf, G., Schmidt, R.A., & Deubel, H. (1993). Zum Einfluß der Feedback-Häufigkeit auf das Erlernen von generalisierten motorischen Programmen und Bewegungsparametern. In R. Dausg & K. Blischke (Eds.), *Aufmerksamkeit und Automatisierung in der Motorik* (pp. 248-253). St. Augustin: Academia.
106. Wulf, G., Schmidt, R.A., & Deubel, H. (1993). Reduced feedback frequency enhances generalized motor program learning but not parameterization learning. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *19*, 1134-1550.
107. Wulf, G., Schmidt, R.A., & Lee, T.D. (1993). Feedback frequency effects on motor skill acquisition. *Proceedings of the 8th World Congress of Sport Psychology*, Lisbon (Portugal), 997-1001.
108. Lee, T.D., Wulf, G., & Schmidt, R.A. (1992). Contextual interference in motor learning: Dissociated effects due to the nature of task variations. *Quarterly Journal of Experimental Psychology*, *44A*, 627-644.
109. Wulf, G. (1992). Neuere Befunde zur Effektivierung des Bewegungslernens. *Sportpsychologie*, *6*, 12-16.
110. Wulf, G. (1992). Reducing knowledge of results can produce context effects in movements of the same class. *Journal of Human Movement Studies*, *22*, 71-84.
111. Wulf, G. (1992). The learning of generalized motor programs and motor schemata: Effects of KR relative frequency and contextual interference. *Journal of Human Movement Studies*, *23*, 53-76.
112. Wulf, G. (1991). The effect of type of practice on motor learning in children. *Applied Cognitive Psychology*, *5*, 123-134.
113. Hancock, P.A., Wulf, G., Rahimi, M., & Fassnacht, P. (1990). Investigations into vehicle conspicuity: Car driver behavior during differing driving maneuvers. *Accident Analysis & Prevention*, *22*, 281-290.
114. Wulf, G. (1989). Schema theory and "mass-spring" control of movements: An attempt at integration. *Sportwissenschaft*, *19*, 204-215.
115. Wulf, G., Hancock, P.A., & Fassnacht, P. (1989). What drivers do when they turn left. *VDI Berichte*, No. 779, 45-56.
116. Wulf, G., Hancock, P.A., & Rahimi, M. (1989). Motorcycle conspicuity: An evaluation and synthesis of influential factors. *Journal of Safety Research*, *20*, 153-176.
117. Wulf, G., & Schmidt, R.A. (1989). The learning of generalized motor programs: Reducing the relative frequency of knowledge of results enhances memory. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *15*, 748-757.
118. Wulf, G. (1988). Bedingungsfaktoren der motorischen Schemabildung. *Sportwissenschaft*, *18*, 40-50
119. Wulf, G., & Schmidt, R.A. (1988). Variability in practice: Facilitation in retention and transfer through schema formation or context effects? *Journal of Motor Behavior*, *20*, 133-149.

PRESENTATIONS

1. Wulf, G. (1985, December). Necessary conditions for the development of children's recall and recognition schemata. Free University of Amsterdam, Department of Psychology, Amsterdam (Holland). **Invited presentation.**
2. Wulf, G. (1988, March). Practice variability: Facilitation in retention and transfer through schema formation or context effects? Paper presented at the Annual Meeting of the *California Association for Health, Physical Education, Recreation, and Dance (CAHPERD)*, Los Angeles, CA.
3. Wulf, G. (1988, April). The schema - context controversy in motor-learning theory. Kansas State University, Department of Physical Education, Manhattan, KS. **Invited presentation.**
4. Wulf, G. (1988, June). Variability in practice: Facilitation in retention and transfer through schema formation or context effects? Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Knoxville, TN.
5. Hancock, P.A., Diggles, V., & Wulf, G. (1988, December). Physical activity in context: Industrial and military perspectives. Paper presented at the *Big Ten CIC Leadership Conference*, Chicago, IL.
6. Wulf, G., & Schmidt, R.A. (1989, March). The learning of movement classes under reduced frequency of knowledge of results. Paper presented at the Annual Meeting of the *California Association for Health, Physical Education, Recreation, and Dance (CAHPERD)*, Los Angeles, CA.
7. Wulf, G., & Hancock, P.A. (1989, May-June). Human factors in automobile-motorcycle collisions. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Kent, OH.
8. Wulf, G., & Schmidt, R.A. (1989, May-June). The learning of generalized motor programs under reduced frequency of knowledge of results. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Kent, OH.
9. Hancock, P.A., Wulf, G., Thom, D.R., & Fassnacht, P. (1989, May). Analyzing the behavior of left-turning drivers. Paper presented at the *12th NATO Conference on Experimental Safety Vehicles*, Göteborg (Sweden).
10. Hancock, P.A., Wulf, G., Thom, D.R., & Fassnacht, P. (1989, October). Contrasting driver behavior during turns and straight driving. Paper presented at the 33rd Annual Meeting of the *Human Factors Society (HFS)*, Denver, CO.
11. Wulf, G. (1990, March). Less can be better: New insights into the role of knowledge of results for motor learning. California State University, Northridge, Department of Kinesiology and Physical Education. **Invited presentation.**
12. Lee, T.D., Wulf, G., & Schmidt, R.A. (1990, May). Action plan reconstruction and the contextual interference effect in motor learning. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Houston, TX.

13. Lee, T.D., Wulf, G., & Schmidt, R.A. (1991, January). Kontext-Interferenz und Aufgabenähnlichkeit beim motorischen Lernen. Paper presented at the Annual Meeting of the *Deutsche Vereinigung für Sportwissenschaft (DVS)*, Saarbrücken (Germany).
14. Wulf, G. (1991, January). Reducing knowledge of results can produce context effects in movements of the same class. Department of Psychology, University of California, Los Angeles. **Invited presentation.**
15. Wulf, G. (1991, March). Kontext-Interferenz-Effekte und Aufgabenähnlichkeit beim motorischen Lernen: Unterstützung für die Elaborations-Hypothese. Paper presented at the *Tagung experimentell arbeitender Psychologen (TeaP)*, Gießen (Germany).
16. Wulf, G. (1991, June). A guidance explanation for contextual interference effects. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Monterey, CA.
17. Wulf, G. (1991, September). Contextual-interference effects in motor learning: Testing a guidance explanation. Poster presented at the *8th European Congress of Sport Psychology*, Cologne (Germany).
18. Wulf, G. (1991, November). Zur Häufigkeit von Rückmeldungen im motorischen Lernprozeß. Technische Universität, München. **Invited presentation.**
19. Wulf, G. (1992, January). Zum Einfluß der Feedback-Häufigkeit auf das motorische Lernen. Department of Psychology, Ludwig-Maximilians-Universität, München. **Invited presentation.**
20. Wulf, G., Schmidt, R.A., & Deubel, H. (1992, January). Zum Einfluß der Feedback-Häufigkeit auf das Erlernen von generalisierten motorischen Programmen und Bewegungsparametern. Poster presented at the Annual Meeting of the *Deutsche Vereinigung für Sportwissenschaft (DVS)*, Saarbrücken (Germany).
21. Wulf, G. (1992, March-April). Stabilität und Variabilität im Bewegungsverhalten: Generalisierte motorische Programme. Winterakademie, Manigod (France). **Invited presentation.**
22. Wulf, G. (1992, March-April). Kontext-Interferenz beim motorischen Lernen. Winterakademie, Manigod (France).
23. Wulf, G. (1992, June). Bewegungslernen. Vorlesung: Einführung in die experimentelle Psychologie, Ludwig-Maximilians-Universität, München. **Invited presentation.**
24. Wulf, G. (1992, June). Contextual interference and reduced KR frequency enhance the learning of generalized motor programs. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Pittsburgh, PA.
25. Wulf, G., & Lee, T.D. (1992, June). Contextual interference effects in movements of the same class: Differential effects on program and parameter learning. Poster presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Pittsburgh, PA.
26. Wulf, G., Schmidt, R.A., & Deubel, H. (1992, June). Reducing the relative frequency of KR does not enhance motor-schema learning. Poster presented at the Annual Meeting of

the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Pittsburgh, PA.

27. Wulf, G., Lee, T.D., & Schmidt, R.A. (1993, January). Effekte einer reduzierten Häufigkeit der Rückmeldungen auf das Erlernen von generalisierten motorischen Programmen und Bewegungsparametern. Paper presented at the Annual Meeting of the *Deutsche Vereinigung für Sportwissenschaft (DVS)*, Trassenheide (Germany).
28. Wulf, G., & Schmidt, R.A. (1993, April). Zum Einfluß unterschiedlicher Rückmeldungs-Häufigkeiten auf das Bewegungslernen. Paper presented at the *Tagung experimentell arbeitender Psychologen (TeaP)*, Münster (Germany).
29. Wulf, G. (1993, May). Zur Optimierung des Bewegungslernens: Neuere Befunde und Forschungsperspektiven. Hochschule der Bundeswehr, Neubiberg. **Invited presentation.**
30. Wulf, G. (1993, May). Zur Optimierung des Bewegungslernens: Neuere Befunde und Forschungsperspektiven. Carl von Ossietzky-Universität, Oldenburg. **Invited presentation.**
31. Wulf, G., Schmidt, R.A., & Lee, T.D. (1993, June). Feedback frequency effects on motor skill acquisition. Paper presented at the *8th World Congress of the International Society of Sport Psychology (ISSP)*, Lisbon (Portugal). **Invited presentation.**
32. Wulf, G., Lee, T.D., & Schmidt, R.A. (1993, June). Reducing KR about relative versus absolute timing: Differential effects on learning. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Brainerd, MN.
33. Wulf, G. (1993, September). Zum Beitrag des Informationsverarbeitungs-Ansatzes zur Gestaltung sportmotorischer Lernprozesse. Paper presented at the *Sportwissenschaftlicher Hochschultag*, Potsdam (Germany).
34. Wulf, G., Lee, T.D., & Schmidt, R.A. (1993, November). Feedback frequency effects on motor learning. Paper presented at the Annual Meeting of the *Psychonomic Society*, Washington, DC.
35. Wulf, G. (1994, January). Wie wirkt mentales Training? - Auswirkungen auf das Lernen von generalisierten motorischen Programmen und Bewegungsparametern. Paper presented at the Annual Meeting of the *Deutsche Vereinigung für Sportwissenschaft (DVS)*, Magdeburg (Germany).
36. Wulf, G. (1994, March). Implizites Lernen von Bewegungsfertigkeiten unter konstanten und variablen Übungsbedingungen. Paper presented at the *Tagung experimentell arbeitender Psychologinnen und Psychologen (TeaPP)*, München (Germany).
37. Wulf, G. (1994, June). Möglichkeiten der Übungsgestaltung zur Optimierung des Bewegungslernens. Universität Regensburg. **Invited presentation.**
38. Shea, J.B., & Wulf, G. (1994, June). Type of KR and the processing used for motor program learning. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Clearwater Beach, Florida.

39. Wulf, G., & Schmidt, R.A. (1994, June). Variability of practice and implicit learning. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Clearwater Beach, Florida.
40. Wulf, G. (1994, July). Zur Problematik der Rückmeldungen beim Bewegungslernen. Ruhr-Universität Bochum. **Invited presentation.**
41. Wulf, G. (1994, September). Implizites Lernen motorischer Fertigkeiten. Paper presented at the DVS-Symposium *Sportbiomechanik, Sportmotorik und Trainingswissenschaft*, Leipzig.
42. Wulf, G. (1995, January). Wirkt mentales Üben wie aktives Üben ohne Rückmeldungen? Paper presented at the Annual Meeting of the *Deutschen Vereinigung für Sportwissenschaft (DVS)*, Saarbrücken.
43. Wulf, G. (1995, March). Methods to enhance motor learning. Paper presented at the *Symposium "Studies of cognitive processes in perception and action"*, Technion, Haifa (Israel).
44. Wulf, G. (1995, May). Neuere Befunde der Motorikforschung: Perspektiven für das Bewegungslernen im Sport. Justus-Liebig-Universität Giessen. **Invited presentation.**
45. Wulf, G. (1995, May). Instruktionen und Rückmeldungen beim Bewegungslernen - weniger kann mehr sein. Universität Freiburg. **Invited presentation.**
46. Schmidt, R.A., & Wulf, G. (1995, June). Influences of concurrent continuous feedback on program and parameter learning. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Asilomar, California.
47. Wrisberg, C.A., & Wulf, G. (1995, June). Advance knowledge of KR trials can degrade learning. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Asilomar, California.
48. Wulf, G., & Weigelt, C. (1995, September). Instruktion oder "Intuition" beim Bewegungslernen? Poster, *Symposium "Handeln im Sport - zwischen Rationalität und Intuition"*, Köln.
49. Wulf, G. (1995, November). Implicit motor skill learning. Florida State University, Tallahassee, FL (USA). **Invited presentation.**
50. Wulf, G. (1995, November). Instruction effects on motor learning. Paper presented at the Annual Meeting of the *Psychonomic Society*, Los Angeles, CA (USA).
51. Wulf, G. (1996, January). Welche Rolle spielt implizites Wissen im Sport? Humboldt-Universität Berlin. **Invited presentation.**
52. Wulf, G. (1996, January). Implicit motor learning. Free University of Amsterdam (The Netherlands). **Invited presentation.**
53. Wulf, G. (1996, February). Aspekte der Wirkungsweise von Rückmeldungen beim Bewegungslernen. Workshop "Wahrnehmung und Handlungssteuerung", Max-Planck-Institut für psychologische Forschung, München. **Invited presentation.**

54. Wulf, G., & Schmidt, R.A. (1996, April). Variable vs. constant practice effects on implicit motor learning. Poster presented at the Annual Meeting of the *British Psychological Society*, Brighton (England).
55. Wulf, G. (1996, May). Instructions can degrade motor skill learning. *First Annual Congress of the European College of Sport Science*. Nice (France). **Invited presentation.**
56. Wulf, G., & Weigelt, C. (1996, June). To tell or not to tell... Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Minnett, Muskoka, Ontario (Canada).
57. Schmidt, R.A., & Wulf, G. (1996, September). Augmented concurrent feedback degrades learning: Implications for training and simulation. Paper presented at the *Human Factors and Ergonomics Society 40th Annual Meeting*, Philadelphia, PA (USA).
58. Wulf, G. (1996, September). Ist unbewußtes Lernen effektiver als bewußtes. Paper presented at the *2nd Bernstein-Conference "Bewegungskoordination und sportliche Leistung integrativ betrachtet"*, Zinnowitz/Usedom.
59. Wulf, G., Lee, T.D., & Schmidt, R.A. (1996, November). The role of motivation in random and blocked practice. Paper presented at the Annual Meeting of the *Psychonomic Society*, Chicago, IL (USA).
60. Wulf, G. (1997, April). Practice and complex skill learning. Texas A&M University, College Station, TX (USA). **Invited presentation.**
61. Lai, Q., Shea, C.H., Wright, D., & Wulf, G. (1997, May). GMP learning: Effects of KR schedule and practice variability. Poster presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Denver, CO (USA).
62. Wulf, G., Shea, C.H., & Whitacre, C.A. (1997, May). Physical guidance benefits in learning a complex motor skill. Poster presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Denver, CO (USA).
63. Wulf, G. (1997, June). Wie sag ich's meinen SchülerInnen? - Instruktionen beim Bewegungslernen. Westfälische Wilhelms-Universität Münster. **Invited presentation.**
64. Wulf, G. (1997, June). Wie nützlich sind Instruktionen beim Bewegungslernen? Universität Augsburg. **Invited presentation.**
65. Wulf, G., Höß, M., & Prinz, W. (1997, August). Attentional focus can affect motor learning. Paper presented at the 2nd Annual Meeting of the *European College of Sport Science*, Copenhagen (Denmark).
66. Wulf, G. (1997, November). The effectiveness of instructions for complex motor skill learning. Louisiana State University, Baton Rouge (USA). **Invited presentation.**
67. Wulf, G., Höß, M., & Prinz, W. (1997, November). Instructions for motor learning: Differential effects of internal vs. external focus of attention. Paper presented at the Annual Meeting of the *Psychonomic Society*, Philadelphia (USA).

68. Wulf, G. (1998, April). Effekte der Aufmerksamkeitslenkung beim motorischen Lernen. Paper presented at the Annual Meeting of the *Tagung experimentell arbeitender Psychologen (TeaP)*, Marburg.
69. Wulf, G., & Toole, T. (1998, June). Learning advantages of a self-controlled physical guidance schedule. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, St. Charles, IL (USA).
70. Wulf, G., Lauterbach, B., & Toole, T. (1998, June). Learning benefits of an external focus of attention in golf. Poster presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, St. Charles, IL (USA).
71. Shea, C.H., & Wulf, G. (1998, July). Enhancing motor learning through external-focus instructions and feedback. Paper presented at the 3rd Annual Meeting of the *European College of Sport Science*, Manchester (UK).
72. McNevin, N.H., & Wulf, G. (1998, September). Skill acquisition: A clinical application of an external-focus of attention. Rehabilitation Institute of Michigan Research Seminar. Detroit, MI (USA). **Invited presentation.**
73. Wulf, G. (1998, October). Enhancing motor learning through an external focus of attention. Rehabilitation Institute of Michigan Research Seminar. Detroit, MI (USA). **Invited presentation.**
74. Shea, C.H., Wulf, G., & Whitacre, C.A. (1998, November). Enhancing motor learning through dyad training. Paper presented at the Annual Meeting of the *Psychonomic Society*, Dallas, TX (USA).
75. Wulf, G. (1999, January). Zur Wirksamkeit von Instruktionen beim Bewegungslernen. Universität Osnabrück. **Invited presentation.**
76. Wulf, G. (1999, April). Attentional focus and motor skill learning. *20th Annual Conference in Movement Sciences – “Acquisition of movement skill”*. Teachers College, Columbia University. **Invited presentation.**
77. Wulf, G. (1999, June). Attention in motor skill acquisition. University of Reading (UK). **Invited presentation.**
78. Maddox, M.D., Wulf, G., & Wright, D.L. (1999, June). The effect of an internal vs. external focus of attention on the learning of a tennis stroke. Poster presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Clearwater Beach, FL (USA).
79. McNevin, N.H., & Wulf, G. (1999, June). Increasing the distance of an external focus enhances learning. Poster presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Clearwater Beach, FL (USA).
80. Whitacre, C., Shea, C.H., & Wulf, G. (1999, June). Surfing the implicit wave. Poster presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Clearwater Beach, FL (USA).
81. Wulf, G., Clauss, A., Shea, C.H., & Whitacre, C. (1999, June). Self-control enhances learning in dyad practice. Paper presented at the Annual Meeting of the *North American*

Society for the Psychology of Sport and Physical Activity (NASPSPA), Clearwater Beach, FL (USA).

82. McNevin, N.H., & Wulf, G. (1999, July). Attention and motor learning: Benefits of a “distant” external focus. Paper presented at the 4th Annual Meeting of the *European College of Sport Science*, Rome (Italy).
83. Wulf, G., Shea, C.H., Whitacre, C., & Park, J.-H. (1999, November). Implicit vs. explicit learning of complex motor skills. Paper presented at the Annual Meeting of the *Psychonomic Society*, Los Angeles, CA (USA).
84. Wulf, G. (2000, February). Attentional focus and motor learning: Effects of instructions and feedback. University of Lancaster (UK). **Invited presentation.**
85. Wulf, G. (2000, April). Benefits of self-controlled practice. Rehabilitation Institute of Michigan Research Seminar. Detroit, MI (USA). **Invited presentation.**
86. McNevin, N.H., Wulf, G., & Fuchs, T. (2000, June). Facilitating motor skill learning – Will any external focus suffice? Poster presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Clearwater Beach, FL (USA).
87. Park, J.-H., Shea, C.H., McNevin, N.H., & Wulf, G. (2000, June). Attentional focus and the control of dynamic balance. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Clearwater Beach, FL (USA).
88. Wulf, G., Gärtner, M., & Schwarz, A. (2000, June). Advantages of external focus feedback in learning a complex motor skill. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, San Diego, CA (USA).
89. Wulf, G. (2000, November). Attentional focus effects on motor skill learning. University of Dundee (UK). **Invited presentation.**
90. Wulf, G. (2001, February). Attentional focus effects on motor control and learning. University of Nevada, Las Vegas (USA). **Invited presentation.**
91. Wulf, G. (2001, March). Motor learning. Future of Golfers Conference, Tempe, AZ (USA). **Invited presentation.**
92. Weigelt, M. & Wulf, G. (2001, June). Attentional focus on supra-postural tasks affects balance learning. Poster presented at the *First World Congress on Motor Development and Learning in Infancy: Behavioral, Neurological and Modeling Issues*. Amsterdam (The Netherlands).
93. Wulf, G., & McNevin, N.H. (2001, June). Further evidence for the advantages of an external attentional focus. – Or: Preventing an internal focus is not enough. Poster presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, St. Louis, MO (USA).
94. Weigelt, M. & Wulf, G. (2002, March). Dem Gleichgewicht unter die Arme greifen. Paper presented at the *Tagung experimentell arbeitender Psychologen (TeaP)*. Chemnitz (Germany).

95. Wulf, G. (2002, March). Attentional focus and motor learning. Paper presented at the *International Conference on Human Performance (ICHP)*, Mesquite, NV (USA).
96. Wulf, G. (2002, April). Feedback and attentional focus. Paper presented at the Annual Meeting of the American Alliance for Health, Physical Education, Recreation, and Dance. San Diego, CA. **Invited presentation.**
97. Wulf, G., Weigelt, M., Poulter, D.R., & McNevin, N.H. (2002, June). Attentional focus on supra-postural tasks and its effect on balance. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*. Baltimore, MD (USA).
98. Wulf, G. (2002, July). Focus of attention and motor skill learning. "*Tutorials in Behavioral and Brain Sciences*", Kochele (Germany). **Invited presentation.**
99. Passmore, S., & Wulf, G. (2002, October). Internal versus external focus of attention; Investigation of a non-magnetic/non-paramagnetic task for future fMRI research. Annual meeting of the *Canadian Society for Psychomotor Learning and Sport Psychology (SCAPPS)*. Vancouver, BC (Canada).
100. Wulf, G., Weigelt, M., Poulter, D.R., & McNevin, N.H. (2002, November). Attentional focus on supra-postural tasks influences balance learning. Poster presented at the Annual Meeting of the *Psychonomic Society*, Kansas City, MO.
101. Landers, M., Wulf G., Wallmann H., & Guadagnoli M. (2003, June). The effects of attentional focus on balance in idiopathic Parkinson's disease. Paper presented at the Annual Meeting of the *American Physical Therapy Association*, Washington, DC.
102. Landers, M., Wulf, G. Wallmann, H., & Guadagnoli, M.A., (2003, June). An external focus of attention can attenuate Balance impairment in Parkinson's Disease. Poster presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*. Savannah, GA (USA).
103. McNevin, N.H., & Wulf, G. (2003, June). Postural control changes in CVA patients as a function of supra-postural attention focus. Poster presented at the annual meeting of the *American College of Sports Medicine (ACSM)*. San Francisco, CA.
104. Wulf, G., Raupach, M., Pfeiffer, F. (2003, June). Self-controlled observational practice enhances learning. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*. Savannah, GA.
105. McNevin, N.H., & Wulf, G. (2003, June). Strategies to encourage performance/learning benefits during physical therapy. Paper presented at the Symposium "Motor Learning", 14th *World Congress for Physical Therapy*. Barcelona, Spain. **Invited presentation.**
106. Wulf, G. (2003, June). Motor skill learning: Enhancing the effectiveness of training by directing the patient's focus of attention. Paper presented at the Symposium "Motor Learning", 14th *World Congress for Physical Therapy*. Barcelona, Spain. **Invited presentation.**
107. Wulf, G. (2003, June). Enhancing the learning of sport skills through an external focus of attention. Keynote lecture, 4th Congress of the *Asian-South Pacific Association of Sport Psychology*, Seoul, South Korea. **Invited presentation.**

108. Wulf, G., Mercer, J., McNevin, N.H., & Guadagnoli, M.A. (2003, June). Reciprocal influences of attentional focus on postural and supra-postural task performance. Poster presented at the 4th Congress of the *Asian-South Pacific Association of Sport Psychology*, Seoul, South Korea.
109. Wulf, G. (2003, July). Attentional focus and balance learning. Annual meeting of the *Cognitive Science Association for Interdisciplinary Learning*, Hood River, OR.
110. Wulf, G. (2004, March). Attentional focus effects on the learning and control of motor skills. *Slaughter Lecture 2004*, University of Virginia, Charlottesville, VA. **Invited presentation.**
111. Chiviawowsky, S., Wulf, G., & Zachry, T. (2004, June). Self-controlled feedback is effective if based on the learner's performance. Poster presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Vancouver, CA.
112. Vance, J., Wulf, G., Töllner, T., McNevin, N.H., & Mercer, J. (2004, June). EMG activity as a function of the performer's focus of attention. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Vancouver, CA.
113. Wulf, G., Landers, M., Mercer, J., Töllner, T., & Guadagnoli, M. (2004, June). Attentional focus effects on motor performance as a function of level of expertise. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Vancouver, CA.
114. Wulf, G. (2004, July). Attentional focus and expertise. Annual meeting of the *Cognitive Science Association for Interdisciplinary Learning*, Hood River, OR.
115. Zachry, T., Wulf, G., Mercer, J., Bezodis, N., & DeLion, D. (2004, October). The effect of internal versus external focus of attention on EMG activity during basketball free throws. Annual meeting of the *Southwest Chapter of the American College of Sports Medicine (SWACSM)*. Las Vegas, NV.
116. Wulf, G. (2004, November). The role of attentional focus in the learning and re-learning of motor skills / Learning benefits of self-controlled practice. University of Southern California, Los Angeles, CA. **Invited presentation.**
117. Freedman, S., Maas, E., Wulf, G., Caligiuri, M., & Robin, D. (2005, May-June). Effects of attentional focus on oral-motor control and learning. *Clinical Aphasiology Conference*, Sanibel Island, FL.
118. Chiviawowsky, S., & Wulf, G. (2005, June). Feedback after "good" trials enhances learning. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, St. Pete Beach, FL.
119. Zachry, T., Wulf, G., Mercer, J., & Bezodis, N. (2005, June). The effect of internal versus external focus of attention on EMG activity during basketball free throws. Poster presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, St. Pete Beach, FL.

120. Zachry, T., Wulf, G., & Mercer, J. (2005, June). Effects of focus of attention on reach height. Poster presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, St. Pete Beach, FL.
121. Weir, P., McNevin, N.H., Quinn, T., & Wulf, G. (2005, October). The effect of attentional focus and age on supra-postural task performance. Annual Meeting of the *Canadian Society for Psychomotor Learning and Sport Psychology (SCAPPS)*. Niagara Falls, Canada.
122. Freedman, S., Maas, E. Robin, D.A., Wulf, G., & Caligiuri, M.P. (2005, November). Effects of attentional focus on oral-motor Control and learning. Annual convention of the *American Speech-Language-Hearing Association (ASHA)*. San Diego, CA.
123. Wulf, G. (2005, November). Enhancing the learning of motor skills. *Keynote presentation*, Annual Meeting of the *American Speech-Language-Hearing Association (ASHA)*, San Diego, CA. **Invited presentation.**
124. Wulf, G. (2005, December). Attentional focus and motor skills. University of California, Berkeley, CA. **Invited presentation.**
125. Freedman, S.E., Maas, E., Caligiuri, M.P., Wulf, G., & Robin, D.A. (2006, March). Oral-motor performance as a function of attentional focus. Poster presented at the *Speech Motor Control Conference*, Austin, TX.
126. Granados, C., & Wulf, G. (2006, June). Enhancing motor learning through dyad practice: Contributions of observation and dialogue. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Denver, CO.
127. McNevin, N.H., Weir, P., Wulf, G., & Quinn, T. (2006, June). Effect of Supra-postural Task Difficulty and Attentional Focus on Postural Sway. Poster presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Denver, CO.
128. Wulf, G. (2006, April). Attentional focus and motor skill learning. "Ellis-Battig Memory Symposium", Annual Meeting of the *Rocky Mountain Psychological Association (RMPA)*, Park City, UT. **Invited presentation.**
129. Wulf, G. (2006, June). Motorisches Lernen: Einflussgrößen und ihre Optimierung (Motor learning: Influential factors and their optimization). *Physiokongress*, Aachen (Germany). **Invited presentation.**
130. Wulf, G. (2006, June). Motorisches Lernen: Einflussgrößen und ihre Optimierung (Motor learning: Influential factors and their optimization). *Kliniken Schmieder*, Konstanz (Germany). **Invited presentation.**
131. Wulf, G. (2006, June). Motorisches Lernen: Aufmerksamkeitsfokus und Üben in Zweier-Gruppen (Motor learning: Focus of attention and dyad practice). University of Music and the Dramatic Arts, Graz (Austria). **Invited presentation.**
132. Landers, M., & Wulf, G. (2006, October). Postural instability in idiopathic Parkinson's disease: predicting fallers from non-fallers based on standardized clinical measures. Paper

presented at the *Movement Disorder Society's 10th International Congress of PD and Movement Disorders*, Kyoto (Japan).

133. Wulf, G. (2007, May). Motorisches Lernen: Wie lässt sich der Übungsprozess optimieren? (Motor learning: How to optimize practice.) Annual meeting of the *Vereinigung der Bobath-Therapeuten Deutschlands*. Lübeck (Germany). **Invited presentation.**
134. Wulf, G. (2007, May). Motorisches Lernen: Wie lässt sich der Übungsprozess optimieren? (Motor learning: How to optimize practice.) Annual meeting of the *Vereinigung der Bobath-Therapeuten Deutschlands*. Lübeck (Germany). **Invited workshop.**
135. Wulf, G. (2007, May). Wie lässt sich das Lernen motorischer Fertigkeiten optimieren? (How can the learning of motor skills be optimized?). University of Music and the Dramatic Arts, Graz (Austria). **Invited seminar.**
136. Wulf, G. (2007, June). Feedback: What have we learned in the past 30 years? Pre-conference Symposium to Reflect on the Contributions of Richard A. Schmidt to Motor Control and Learning Research. Paper presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, San Diego, CA. **Invited presentation.**
137. Wulf, G., Granados, C., & Dufek, J.S. (2007, June). Increases in jump-and-reach height through an external focus of attention. Poster presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, San Diego, CA.
138. Wulf, G. (2007, September). Enhancing motor learning: Attentional focus and self-control. Rancho Los Amigos National Rehabilitation Center. **Invited presentation.**
139. Wulf, G. (2007, November). Attention and motor skill learning. Department of Psychology, University of California, San Diego, CA. **Invited presentation.**
140. Wulf, G. & Dufek, J.S. (2008, April). Why do people jump higher with an external focus of attention? Poster presented at Division of Health Sciences *Interdisciplinary Research Scholarship Day*, University of Nevada, Las Vegas.
141. Wulf, G., Landers, M., Lewthwaite, R., & Töllner, T. (2008, April). Postural instability in Parkinson's disease decreases with an external focus of attention. Poster presented at Division of Health Sciences *Interdisciplinary Research Scholarship Day*, University of Nevada, Las Vegas.
142. Wulf, G. (2008, May). The role of attentional focus in motor skill learning. *Art in Motion – Musical & Athletic Motor Learning & Performance*, University of Music and Dramatic Arts, Graz, Austria. **Invited presentation.**
143. Wulf, G., Dufek, J.S., Granados, C., & Pettigrew, C. (2008, June). An external focus of attention increases jump height. Poster presented at the Annual Meeting of the *North American Society for the Psychology of Sport and Physical Activity (NASPSPA)*, Niagara Falls, Canada.
144. Wulf, G., & Lewthwaite, R. (2008, June). Motivational influences on motor learning: The impact of social-comparative feedback. Poster presented at the Annual Meeting of the

North American Society for the Psychology of Sport and Physical Activity (NASPSPA),
Niagara Falls, Canada.

145. Wulf, G. (2008, July). Attention and motor learning. **Keynote presentation**, *Brazilian Congress of Motor Behaviour*, Sao Paulo, Brazil.
146. Wulf, G. (2008, July). Attention and motor learning: An overview. *Brazilian Congress of Motor Behaviour*, Sao Paulo, Brazil. **Invited workshop**.
147. Wulf, G. (2008, October). The role of attentional focus on motor skill learning. Department of Psychology, University of Nevada, Las Vegas. **Invited presentation**.
148. Wulf, G., Lewthwaite, R., & Bragg, K. (2009, April). Conceptions of ability affect motor learning. Poster presented at Division of Health Sciences *Interdisciplinary Research Scholarship Day*, University of Nevada, Las Vegas.
149. Dyrek, A., Wulf, G., & Lewthwaite, R. (2009, April). Normative feedback on one motor task can affect performance on another task. Poster presented at Division of Health Sciences *Interdisciplinary Research Scholarship Day*, University of Nevada, Las Vegas.
150. Chiviawosky, S., Wulf, G., Schiller, E., Gentilini Avila, L.T., & Lozano, L. (2009) Frequent external-focus feedback enhances learning. Poster presented at Division of Health Sciences *Interdisciplinary Research Scholarship Day*, University of Nevada, Las Vegas.