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The research-teaching nexus in the sciences : scientific research dispositions and teaching practice

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Citation

Rijst, R. M. van der. (2009, September 23). *The research-teaching nexus in the sciences : scientific research dispositions and teaching practice*. ICLON PhD Dissertation Series. Leiden. Retrieved from <https://hdl.handle.net/1887/14011>

Version: Corrected Publisher's Version

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Downloaded from: <https://hdl.handle.net/1887/14011>

Note: To cite this publication please use the final published version (if applicable).



References

- Abd-El-Khalick, F., & Lederman, N.G. (2000). Improving science teachers' conceptions of nature of science: A critical review of the literature. *International Journal of Science Education*, 22, 665-701.
- Abd-El-Khalick, F., Bell, R.L., & Lederman, N.G. (1998). The nature of science and instructional practice: Making the unnatural natural. *Science Education*, 82, 417-436.
- Abell, S.K. (2007). Research on science teacher knowledge. In S.K. Abell & N.G. Lederman (Eds.), *Handbook of research on science education* (pp. 1105-1149). Mahwah, NJ: Lawrence Erlbaum Associates.
- Abrami, P.C., d'Apollonia, S., & Cohen, P. (1990). The validity of student ratings of instruction: What we know and what we do not. *Journal of Educational Psychology*, 82, 219-231.
- Ajzen, I., & Fishbein, M. (2005). The influence of attitudes on behavior. In D. Albarracín, B.T. Johnson, & M.P. Zanna (Eds.), *The handbook of attitudes* (pp. 173-221). Mahwah, NJ: Lawrence Erlbaum Associates.
- Albarracín, D., Johnson, B.T., Zanna, M.P., & Kumkale, G.T. (2005). Attitudes: Introduction and scope. In D. Albarracín, B.T. Johnson, & M.P. Zanna (Eds.), *The Handbook of Attitudes* (pp. 3-20). Mahwah, NJ: Lawrence Erlbaum Associates.
- Alexander, P.A. (2005). Teaching towards expertise. *British Journal for Educational Psychology*, 3, 29-45.
- American Association for the Advancement of Science (1990). *Science for all Americans*. New York: Oxford University Press.
- American Association for the Advancement of Science (1993). *Benchmarks for science literacy: A project 2061 report*. New York: Oxford University Press.
- Austin, J.L. (1962). *How to do things with words*. Oxford, UK: Oxford University Press.
- Ax, J., Ponte, P., & Brouwer, N. (2008). Action research in initial teacher education: An explorative study. *Journal of Educational Action Research*, 16, 55-72.
- Bach, K., & Harnish, R.M. (1979). *Linguistic communication and speech acts*. Cambridge, Mass: MIT Press.
- Bakkenes, I., Vermunt, J.D.H.M., Wubbels, Th., & Imants, J. (2007, April). *Towards a model for teachers' learning at the workplace*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, USA.
- Bakker, M.E.J., Sanders, P., Beijaard, D., Roelofs, E., Tigelaar, D., & Verloop, N. (2008). De betrouwbaarheid en generaliseerbaarheid van competentiebeoordelingen op basis van een videodossier [The reliability and general applicability of competence assessment based on a video portfolio]. *Pedagogische Studiën*, 85, 240-260.
- Barak, M., Ben-Chaim, D., & Zoller U. (2007). Purposely teaching for the promotion of higher-order thinking skills: A case of critical thinking. *Research in Science Education*, 37, 353-369.
- Barnett, R. (2000). *Realizing the university in an age of supercomplexity*. Buckingham, UK: Open University Press/SRHE.
- Barnett, R. (Ed.) (2005). *Reshaping the university: New relationships between research, scholarship and teaching*. Maidenhead, UK: McGraw Hill/Open University Press.

References

- Bauer, H.H. (1992). *Scientific literacy and the myth of the scientific method*. Urbana, IL: University of Illinois Press.
- Becher, T. (1989). *Academic tribes and territories: Intellectual enquiry and the cultures of disciplines*. Buckingham, UK: Open University Press/SRHE.
- Becher, T. (1990). Physicists on physics. *Studies in Higher Education*, 15, 3-20.
- Beijaard, D., Meijer, P.C., & Verloop, N. (2004). Reconsidering research on teachers' professional identity. *Teaching and Teacher Education*, 20, 107-128.
- Berry, A., Loughran, J.J., & Van Driel, J.H. (2008). Revisiting the roots of Pedagogical Content Knowledge. *International Journal of Science Education*, 30, 1271-1279.
- Biglan, A. (1973). Relationships between subject matter characteristics and the structure and output of university departments. *Journal of Applied Psychology*, 57, 204-213.
- Bird, A. (1998). Dispositions and antidotes. *The Philosophical Quarterly*, 48, 227-234.
- Bonevac, D., Dever, J., & Sosa, D. (2008). The conditional fallacy. *The Philosophical Review*, 115, 273-316.
- Borda, E.J. (2007). Applying Gadamer's concept of disposition to science and science education. *Science and Education*, 16, 1027-1041.
- Borgatti, S.P., Everett, M.G., & Freeman, L.C. (1999). *UCINET 5.0 version 1.00*. Natick, MA: Analytic technologies.
- Borko, H., & Putnam, R. (1996). Learning to teach. In D.C. Berliner & R.C. Calfee (Eds.), *Handbook of educational psychology* (pp. 673-707). New York: MacMillan.
- Bourdieu, P. (1977). Outline of a theory of practice (R. Nice, Trans.). New York: Cambridge University Press. (Original work published 1972)
- Bourdieu, P. (1988). Homo academicus (P. Collier, Trans.). Stanford, CA: Stanford University Press. (Original work published 1984)
- Bourdieu, P. (1989). For a socio-analysis of intellectuals: On homo academicus. *Berkeley Journal of Sociology*, 34, 1-29.
- Boyer Commission on Educating Undergraduates in the Research University (1998). *Reinventing undergraduate education: A blueprint for America's research universities*. Stony Brook, NY: State University of New York at Stony Brook for the Carnegie Foundation for the Advancement of Teaching.
- Boyer Commission on Educating Undergraduates in the Research University (2002). *Reinventing undergraduate education: three years after the Boyer report*. Stony Brook, NY: State University of New York at Stony Brook for the Carnegie Foundation for the Advancement of Teaching.
- Boyer, E.L. (1990). *Scholarship reconsidered: Priorities of the professoriate*. San Francisco CA: Jossey-Bass.
- Braskamp, L.A., & Ory, J.C. (1994). *Assessing faculty work: Enhancing individual and institutional performance*. San Francisco, CA: Jossey-Bass.
- Brew, A. (2001). Conceptions of research: A phenomenographic study. *Studies in Higher Education*, 26, 271-285.
- Brew, A. (2006). *Research and teaching: Beyond the divide*. New York: Palgrave MacMillan.
- Brew, A. (2008). Disciplinary and interdisciplinary affiliations of experienced researchers. *Higher Education*, 56, 423-438.

- Bryant, A., & Charmaz, K. (Eds.) (2007). *The Sage handbook of grounded theory*. Los Angeles: Sage Publications.
- Caleon, I.S., & Subramaniam, R. (2008). Attitudes towards science of intellectually gifted and mainstream upper primary students in Singapore. *Journal of Research in Science teaching, 45*, 940-954.
- Cashin, W.E., & Downey, R.G. (1992). Using global student ratings for summative evaluation. *Journal of Educational Psychology, 84*, 563-572.
- Clark, B.R. (1997). The modern integration of research activities with teaching and learning. *The Journal of Higher Education, 68*, 241-255.
- Cochran-Smith, M., & Zeichner, K.M. (2005). *Studying teacher education: The report of the AERA panel on research and teacher education*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Colbeck, C.L. (1998). Merging in a seamless blend: How faculty integrate teaching and research. *The Journal of Higher Education, 69*, 647-671.
- Damon, W. (2007). Dispositions and teacher assessment: The need for a more rigorous definition. *Journal of Teacher Education, 58*, 365-369
- De Heus, P., Van Leeden, R., & Gazendam, B. (1995). *Toegepaste data analyse* [Applied data Analysis]. Amsterdam: Reed Elsevier.
- De Jong, O., Van Driel, J.H., & Verloop, N. (2005). Preservice teachers' pedagogical content knowledge of using particle models in teaching chemistry. *Journal of Research in Science Teaching, 42*, 947-964.
- De Vos, W., & Genseberger, R. (2000). 'Onderzoek doen' in de natuurwetenschappelijke vakken ['Doing research' in science subjects]. *Tijdschrift voor Didactiek der Bètawetenschappen, 17*(1), 4-13.
- De Wit, H. (2006). European integration in higher education: The Bologna process towards a European higher education area. In J.J.F. Forest & P.G. Altbach (Eds.), *International handbook of higher education* (pp. 461-482). Dordrecht, NL: Springer.
- Deem, R., & Lucas, L. (2007). Research and teaching cultures in two contrasting UK policy contexts: Academic life in education departments in five English and Scottish universities. *Higher Education, 54*, 115-133.
- Diez, M.E., & Raths, J. (Eds.) (2007). *Dispositions in teacher education*. Charlotte, NC: Information Age Publishing.
- Dottin, E.S. (2009). Professional judgment and dispositions in teacher education. *Teaching and Teacher Education, 25*, 83-88.
- Durkin, M.J., & Barnes, J. (1986). Research on teaching in higher education. In M.C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 754-777). New York: MacMillan Publishing Company.
- Durning, B., & Jenkins, A. (2005). Teaching/research relations in departments: The perspectives of build environment academics. *Studies in Higher Education, 30*, 407-426.
- Eggs, H., & MacDonald, R. (2003). *The scholarship of academic development*. Buckingham, UK: Open University Press/SRHE.

References

- Elen, J., Lindholm-Ylänne, S., Clement, M. (2007). Faculty Development in research-intensive universities: The role of academics' conceptions on the relationship between research and teaching. *International Journal for Academic Development*, 12(2), 123-139.
- Elen, J., & A. Verburgh, A. (2008). *Bologna in European research-intensive universities: Implications for bachelor and master programs*. Antwerp, Belgium: Garant.
- Elsen, G.M.F., Visser-Wijnveen, G.J., Van der Rijst, R.M., & Van Driel, J.H. (2009). How to strengthen the connection between research and teaching in undergraduate university education. *Higher Education Quarterly*, 63, 64-85.
- Elton, L. (1986). Research and teaching: Symbiosis or conflict. *Higher Education*, 15, 299-304.
- European Ministers of Education. (1999). *The Bologna declaration of 19 June 1999*.
- Everitt, B.S., Landau, S., & Leese, M. (2001). *Cluster analysis* (4th ed.). New York: Oxford University Press.
- Facione, N.C., & Facione, P.A. (1992). *CCTDI: The California Critical Thinking Disposition Inventory*. Millbrae, CA: California Academic Press.
- Facione, P.A., Facione, N.C., & Giancarlo, C.A. (2000). *California Critical Thinking Disposition Inventory*. Millbrae, CA: California Academic Press.
- Facione, P.A., Sanchez, C.A., Facione, N.C., & Gainen, J. (1995). The disposition towards critical thinking. *Journal of General Education*, 44(1), 1-25.
- Fara, M. (2005). Dispositions and habituals. *Noûs*, 39, 43-82.
- Forest, J.J.F. (2006). Teaching and learning in higher education. In J.J.F. Forest & P.G. Altbach (Eds.), *International handbook of higher education* (pp. 347-375). Dordrecht, NL: Springer.
- Gage, N.L. (1963). Paradigms for research on teaching. In N.L. Gage (Ed.), *Handbook of research on teaching* (pp. 94-141). Chicago: Rand McNally Company.
- Giddens, A. (1987). *Social theory and modern sociology*. Cambridge: Polity Press.
- Gifi, A. (1990). *Nonlinear multivariate analysis*. Chichester, UK: John Wiley & Sons Ltd.
- Gottlieb, E.E., & Keith, B. (1997). The academic research-teaching nexus in eight advanced-industrialized countries. *Higher Education*, 34, 397-420.
- Greenacre, M. (2007). *Correspondence analysis in practice* (2nd ed.). New York: Chapman & Hall.
- Gregory, J., & Jones, R. (in press). 'Maintaining competence': A grounded theory typology of approaches to teaching in higher education. *Higher Education*.
- Griffith, R. (2004). Knowledge production and the research-teaching nexus: The case of build environment disciplines. *Studies in Higher Education* 29, 709-726.
- Guest, G., Bunce A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Method*, 18, 59-82.
- Halliwell, J. (2008). *The nexus of teaching and research: Evidence and insights from literature*. Toronto, CA: Higher Education Quality Council of Ontario.
- Hattie, J., & Marsh, H.W. (1996). The relationship between research and teaching: A meta-analysis. *Review of Educational Research*, 66, 507-542.

- Healey, M. (2000). Developing the scholarship of teaching in higher education: A discipline-based approach. *Higher Education Research and Development, 19*, 169-189.
- Healey, M. (2005a). Linking research and teaching to benefit student learning. *Journal of Geography in Higher Education, 29*, 183-201.
- Healey, M. (2005b). Linking research and teaching: Exploring disciplinary spaces and the role of inquiry-based learning. In R. Barnett (Ed.), *Reshaping the university: New relationships between research, scholarship and teaching* (pp. 67-78). London: McGraw Hill / Open University Press.
- Healey, M., Jordan, F., Pell, B., & Short, C. (in press). The research-teaching nexus: a case study of students' awareness, experiences and perceptions of research. *Innovations in Education and Teaching International*.
- Hoogveld, A.W.M., Paas, F., & Jochems, W.M.G. (2005). Training higher education teachers for instructional design of competency-based education: Product-oriented versus process-oriented worked examples. *Teaching and Teacher Education, 21*, 287-297.
- Hughes, M. (2005). The mythology of research and teaching relationships in universities. In R. Barnett (Ed.), *Reshaping the university: New relationships between research, scholarship and teaching* (pp. 14-26). Maidenhead, UK: McGraw Hill/Open University Press.
- Huisman, J. (2006). *Analysing university welcome addresses: A linguistic turn*. Paper presented at the annual meeting of the Society for Research into Higher Education, Brighton, UK.
- Huisman, M., & Van Duijn, M.A.J. (2003). Software for social network analysis. In P. J. Carrington, J. Scott, & S. Wasserman, *Models and methods in social network analysis* (pp. 270-316). Cambridge, UK: Cambridge University Press.
- Hunter, A.B., Laursen, S.L., & Seymour, E. (2006). Becoming a scientist: The role of undergraduate research in students' cognitive, personal, and professional development. *Science Education, 91*, 36-74.
- Janesick, V.J. (1994). The dance of qualitative research design: Metaphor, methodolatry, and design. In N.K. Denzin & Y.S. Lincoln (Eds.), *Handbook of Qualitative Research* (pp. 209-219). London: Sage Publications.
- Jenkins, A., Blackman, T., Lindsay, R., & Paton-Saltzberg, R. (1998). Teaching and research: Student perspectives and policy implications. *Studies in Higher Education, 23*, 127-141.
- Jenkins, A., Breen, R., & Lindsay, R. (2003). *Reshaping teaching in higher education: Linking teaching with research*. London: Kogan Page Limited.
- Jenkins, A., Healey, M., & Zetter, R. (2007). *Linking teaching and research in departments and disciplines*. York, UK: The Higher Education Academy.
- Jensen, J.-J. (1988). Research and teaching in the universities of Denmark: Does such an interplay really exist? *Higher Education, 17*, 17-28.
- Johnston, M. (1992). How to speak of the colors. *Philosophical Studies, 68*, 221-263.

References

- Kan, C., Verloop, N., & Ponte, P. (2008, September). *Use of the repertory grid technique for eliciting teachers' moral constructs*. Paper presented at the annual meeting of the European Educational Research Association, Göteborg, Sweden.
- Kane, R., Sandretto, S., & Heath, C. (2002). Telling half the story: A critical review of research on the teaching beliefs and practices of university academics. *Review of Educational Research, 72*, 177-228.
- Kane, R., Sandretto, S., & Heath, C. (2004). An investigation into excellent tertiary teaching: Emphasising reflective practice. *Higher Education, 47*, 283-310.
- Karasavvidis, I., Pieters, J.M., & Plomp, T. (2000). Investigating how secondary school students learn to solve correlational problems: Quantitative and qualitative discourse approaches to the development of self-regulation. *Learning and Instruction, 10*, 267-292.
- Katz, L.G., & Rath, J.D. (1985). Dispositions as goals for teacher education. *Teaching and Teacher Education, 1*, 301-307.
- Kember, D. & Gow, L. (1994). Orientations to teaching and their effect on the quality of student learning. *Journal of Higher Education, 65*, 58-74.
- Kember, D. (1997). A reconceptualisation of the research into university academics' conceptions of teaching. *Learning and Instruction, 7*, 255-275.
- Kember, D. (2000). *Action learning and action research: Improving the quality of teaching and learning*. London: Routledge Falmer.
- Kember, D., & Kwan, K. (2002). Lecturers' approaches to teaching and their relationship to conceptions of good teaching. In N. Hativa, & P. Goodyear (Eds.), *Teacher thinking, beliefs and knowledge in higher education* (pp. 219-240). Dordrecht, NL: Kluwer Academic Publishers.
- Kinchin, I.M., & Hay, D.B. (2007). The myth of the research-led teacher. *Teachers and Teaching: Theory and Practice, 13*, 43-61.
- Könings, K.D. (2007). *Student perspectives on education: Implications for instructional design*. Unpublished doctoral dissertation, Open University, Heerlen, The Netherlands.
- Korthagen, F.A.J. (2004). In search of the essence of a good teacher: Towards a more holistic approach in teacher education. *Teaching and Teacher Education, 20*, 77-97.
- Kreber, C. (2002). Controversy and consensus on the scholarship of teaching. *Studies in Higher Education, 27*, 151-167.
- Kreber, C., & Cranton, P.A. (2000). Exploring the scholarship of teaching. *The Journal of Higher Education, 71*, 476-495.
- Krippendorff, K. (1980). *Content analysis*. London: Sage Publications.
- Kyvik, S., & Smeby, J.-C. (1994). Teaching and Research: The relationship between the supervision of graduate students and faculty research performance. *Higher Education, 28*, 227-239.
- Laird, T.F.N. (2005). College students' experiences with diversity and their effects on academic self-confidence, social agency, and disposition towards critical thinking. *Research in Higher Education, 46*, 365-387.

- Laugksch, R.C. (2000). Scientific literacy: A conceptual overview. *Science Education, 84*, 71-94.
- Latour, B. (1987). *Science in action*. Cambridge, MA: Harvard University Press.
- Latour, B., & Woolgar, S. (1979). *Laboratory life: The social construction of scientific facts*. Los Angeles: Sage Publications.
- Leisyte, L., Enders, J., & De Boer, H. (in press). The balance between teaching and research in Dutch and English universities in the context of university governance reforms. *Higher Education*.
- Lichtenstein, M.J., Owen, S.V., Balalock, C.L., Liu, Y., Ramirez, K.A., Pruski, L.A., Marshall, C.E., & Toepperwein, M.A. (2008). Psychometric reevaluation of the scientific attitude inventory-revised (SAI-II). *Journal of Research in Science Teaching, 45*, 600-616.
- Lindsay, R., Breen, R., & Jenkins, A. (2002). Academic research and teaching quality: The views of undergraduate and postgraduate students. *Studies in Higher Education, 27*, 309-327.
- Mainhard, T.M., Van der Rijst, R.M., Van Tartwijk, J.W.F., & Wubbels, Th. (2009). Studying the supervision of doctoral students from an interpersonal perspective. *Higher Education, 85*, 359-373.
- Malzkorn, W. (2001). Defining disposition concepts: A brief history of the problem. *Studies in History and Philosophy of Science, 32*, 335-353.
- Marsh, H.W., & Hattie, J. (2002). The relation between research productivity and teaching effectiveness. *The Journal of Higher Education, 73*, 603-641.
- Marsh, H.W., & Roche, L.A. (1997). Making students' evaluations of teaching effectiveness effective. *American Psychologist, 52*, 1187-1197.
- Marsh, H.W., Rowe, K.J., & Martin, A. (2002). PhD students' evaluations of research supervision. *The Journal of Higher Education, 73*, 313-348.
- Martin, E., Prosser, M., Trigwell, K., Ramsden, P., & Benjamin, J. (2002). What university teachers teach and how they teach it. In N. Hativa & P. Goodyear (Eds.), *Teacher thinking, beliefs and knowledge in higher education* (pp. 103-126). Dordrecht, NL: Kluwer Academic Publishers.
- Martin, G.A. (1997). Teachers or researchers? The perceptions of professional role among university lecturers. *Innovations in Education and Teaching International, 34*, 154-159.
- Mayor, C.H., & Palmer, B. (2006). Reshaping teaching and learning: the transformation of faculty pedagogical content knowledge. *Higher Education, 51*, 619-647.
- McAlpine, L., Jazvak-Martek, M., & Gonsalves, A. (2007). The question of identity: Negotiating roles and voices in evolving academic systems. In R. Barnett & R. Di Napoli (Eds.), *Changing identities and voices in higher education* (pp. 113-123). London: Routledge Falmer.
- McKeachie, W.J. (1990). Research on college teaching: The historical background. *Journal of Educational Psychology, 82*, 189-200.
- McLean, M., & Barker, H. (2004). Students making progress and the 'research-teaching nexus' debate. *Teaching in Higher Education, 9*, 407-419.

References

- Meijer, P.C. (1999). *Teachers' practical knowledge: Teaching reading comprehension in secondary education*. Unpublished doctoral dissertation, ICLON – Leiden University Graduate School of Teaching, Leiden, The Netherlands.
- Meirink, J.A., Meijer, P.C., Verloop, N., & Bergen, Th.C.M. (2009). Understanding teacher learning in secondary education: The relations of teacher activities to changed beliefs about teaching and learning. *Teaching and Teacher Education, 25*, 89-100.
- Menges, R.J., & Austin, A.E. (2001). Teaching in higher education. In V. Richardson (Ed.), *Handbook of research on teaching* (4th ed., pp. 1122-1156). Washington, DC: American Educational Research Association.
- Miles, M.B., & Huberman, A.M. (1994). *Qualitative data analysis*. London: Sage Publications.
- Moses, I. (1990). Teaching, research and scholarship in different disciplines. *Higher Education, 19*, 351-375.
- Muhr, T. (1997). *ATLAS.ti: the knowledge workbench: visual qualitative data analysis, management, model building: short user's manual*. Berlin: Scientific Software Development.
- Murray, F.B. (2007). Disposition: A superfluous construct in teacher education. *Journal of Teacher Education, 58*(5), 381-387.
- Murray, K., & MacDonald, R. (1997). The disjunction between lecturers' conceptions of teaching and their claimed educational practice. *Higher Education, 33*, 331-349.
- Neumann, A. (2006). Professing passion: Emotion in the scholarship of professors at research universities. *American Educational Research Journal, 43*, 381-424.
- Neumann, R. (1992). Perceptions of the teaching-research nexus: A framework for analysis. *Higher Education, 23*, 159-171.
- Neumann, R. (1994). The teaching-research nexus: Applying a framework to university students' learning experiences. *European Journal of Education, 29*(3), 323-338.
- Neumann, R., Parry, S., & Becher, T. (2002). Teaching and learning in their disciplinary contexts: A conceptual analysis. *Studies in Higher Education, 27*, 405-417.
- Nijveld, M.J., Beijaard, D., Brekelmans, J.M.G., Verloop, N., & Wubbels, Th. (2006). Assessing the interpersonal competence of beginning teachers: The quality of assessors' judgement processes. *International Journal of Educational Research, 43*, 89-102.
- Nilsson, P. (2008). Teaching for understanding: The complex nature of PCK in pre-service teacher education. *International Journal of Science Education, 30*, 1281-1299
- Norton, L, Richardson, J.T.E., Hartley, J., Newstead, S., & Mayes, J. (2005). Teachers' beliefs and intentions concerning teaching in higher education. *Higher Education, 50*, 537-571.
- Noyes, A. (2008). Choosing teachers: Exploring agency and structure in the distribution of newly qualified teachers. *Teaching and Teacher Education, 24*, 674-683.
- O'Conner, B. (1999). Simple and flexible SAS and SPSS programs for analyzing lag-sequential categorical data. *Behavior Research Methods, Instruments, & Computers, 31*(4), 718-726.

- Oolbekkink-Marchand, H.W., Van Driel, J.H., & Verloop, N. (2006). A breed apart? A comparison of secondary and university teachers' perspectives on self-regulated learning. *Teachers and Teaching: Theory and Practice*, 12, 593-614.
- Padilla, K., Ponce-de-León, A.M., Rembado, F.M., & Garritz, A. (2008). Undergraduate Professors' Pedagogical Content Knowledge: The case of 'amount of substance'. *International Journal of Science Education*, 30, 1389-1404.
- Pajares, M.F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research*, 62, 307-332.
- Perkins, D., Jay, E., & Tishman, S. (1993). Teaching thinking: From ontology to education. *Educational Psychologist*, 28(1), 67-85.
- Perkins, D., Tishman, S., Ritchhart, R., Donis, K., & Andrade, A. (2000). Intelligence in the wild: A dispositional view of intellectual traits. *Educational Psychology Review*, 12(3), 269-293.
- Pickering, A.M. (2006). Learning about university teaching: Reflections on a research study investigating influences for change. *Teaching in Higher Education*, 11, 319-335.
- Pithers, R.T., & Soden, R., (2000). Critical thinking in education: A review. *Educational Research*, 42, 237-249.
- Platteel, T., Hulshof, H., & Van Driel, J.H. (2008). Teachers of mother-tongue education in action: Teachers designing concept-context-enriched education in an action research setting. *L1- Educational Studies in Language and Literature*, 8(4), 85-105.
- Postareff, L., & Lindblom-Ylänne, S. (2008). Variation in teachers' descriptions of teaching: Broadening the understanding of teaching in higher education. *Learning and Instruction*, 18, 109-120.
- Prosser, M., & Trigwell, K. (1997). Relations between perceptions of teaching environment and approaches to teaching. *The British Journal of Educational Psychology*, 67, 25-35.
- Prosser, M., Trigwell, K., & Taylor, P. (1994). A phenomenographic study of academics' conceptions of science learning and teaching. *Learning and Instruction*, 4, 217-231.
- Prosser, M., Martin, E., Trigwell, K., Ramsden, P., & Middleton, H. (2008). University academics' experiences of research and its relationship to their experience of teaching. *Instructional Science*, 36, 3-16.
- Ramsden, P. (2003). *Learning to teach in higher education*. London: Routledge Falmer.
- Reeder, G.D., & Brewer, M.B. (1979). A schematic model of dispositional attribution in interpersonal perception. *Psychological Review*, 86, 61-79.
- Reeder, G.D., Vonk, R., Ronk, M.J., Ham, J., & Lawrence, M. (2004). Dispositional attribution: Multiple inferences about motive-related traits. *Journal of Personality and Social Psychology*, 86, 530-544.
- Robertson, J., & Blackler, G. (2006). Students' experiences of learning in a research environment. *Higher Education Research and Development*, 25, 215-229.
- Rogers, R., Malancharuvil-Berkes, E., Mosley, M., Hui, D., & O'Garro Joseph, G. (2005). Critical discourse analysis in education: A review of the literature. *Review of Educational Research*, 75, 365-416.

References

- Romano, M.E. (2006). "Bumpy moments" in teaching: Reflections from practicing teachers. *Teaching and Teacher Education*, 22, 973–985.
- Rosenshine, B. (1971). *Teaching behaviours and student achievement*. London: NFER.
- Rosenshine, B., & Furst, N. (1973). The use of direct observation to study teaching. In R.M.W. Travers (Ed.), *Second handbook of research on teaching* (pp. 122-183). Chicago: Rand McNally College Publishing Company.
- Roth, W.-M., & Lawless, D. (2002). Scientific investigations, metaphorical gestures, and the emergence of abstract scientific concepts. *Learning and Instruction*, 12, 285-304.
- Roth, W.-M., & Roychoudhury, A. (1994). Science discourse through collaborative concept mapping: New perspectives for the teacher. *International Journal of Science Education*, 16, 437-455.
- Rowbottom, D.P., & Aiston S.J. (2006). The myth of 'scientific method' in contemporary educational research. *Journal of Philosophy of Education*, 40, 137-156.
- Ruis, P. (2007). *Praktijkvoorbeelden van researchintensief onderwijs aan de Universiteit Leiden [Exemplary practices of research-intensive education at Leiden University]*. Memorandum: 1232. Leiden, NL: ICLON – Leiden University Graduate School of Teaching.
- Ryan, G.W., & Bernard, H.R. (2000). Data management and analysis methods. In N.K. Denzin & Y.S. Lincoln (Eds.), *Handbook of Qualitative Research* (2nd ed., pp. 769-802). London: Sage Publications.
- Ryder, J., Leach, J., & Driver, R. (1999). Undergraduate science students' images of science. *Journal of Research in Science Teaching*, 36, 201-219.
- Saarinen, T. (2008). Position of text and discourse analysis in higher education. *Studies in Higher Education*, 33, 719-728.
- Samarapungavan, A., Westby, E.L., & Bodner, G.M. (2006). Contextual epistemic development in science: A comparison of chemistry students and research chemists. *Science Education*, 90, 468-495.
- Samuelowicz, K., & Bain, J.D. (1992). Conceptions of teaching held by academic teachers. *Higher Education*, 24, 93-111.
- Samuelowicz, K., & Bain, J.D. (2001). Revisiting academics' beliefs about teaching and learning. *Higher Education*, 41, 299-325.
- Samuelowicz, K., & Bain, J.D. (2002). Identifying academics' orientations to assessment practices. *Higher Education*, 43, 173-201.
- Schussles, D. L. (2006). Defining dispositions: Wading through murky waters. *The Teacher Educator*, 41(4), 251-268.
- Schwartz, R.S., & Lederman, N.G. (2008). What scientists say: Scientists' views of nature of science and relation to science context. *International Journal of Science Education*, 30, 727-771.
- Schwartz, R.S., Lederman, N.G., & Crawford, B.A. (2004). Developing views of nature of science in an authentic context: An explicit approach to bridging the gap between nature of science and scientific inquiry. *Science Education*, 88, 610-645.
- Scott, P. (1995). *The meanings of mass higher education*. Buckingham, UK: Society for Research into Higher Education.

- Scott, P.H., & Mortimer, E.F. (2006). The tension between authoritative and dialogic discourse: A fundamental characteristic of meaning making interactions in high school science lessons. *Science Education, 90*, 605-631.
- Searle, J.R. (1969). *Speech Acts*. Cambridge, UK: Cambridge University Press.
- Serow, R.C. (2000). Research and teaching at a research university. *Higher Education, 40*, 449-463.
- Seymour, E., Hunter, A.B., Laursen, S.L., & Deantoni, T. (2004). Establishing the benefits of research experiences for undergraduates in the sciences: First findings from a three-year study. *Science Education, 88*, 493-534.
- Sherman, T.M., Armistead, L.P., Fowler, F., Barksdale, M.A., & Reif, G. (1987). The quest for excellence in university teaching. *Journal of Higher Education, 48*, 66-84.
- Shope, R.K. (1978). The conditional fallacy in contemporary philosophy. *The Journal of Philosophy, 75*, 397-413.
- Shulman, L.S. (1986). Paradigms and research programs in the study of teaching: A contemporary perspective. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 3-36). New York: MacMillan Publishing Company.
- Shulman, L.S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review, 57*, 1-22.
- Shulman, L.S. (2002). Making differences: A table of learning. *Change, 34*, 36-44.
- Siegel, H. (2005). What (good) are thinking dispositions? *Educational Theory, 49*, 207-221.
- Simons, M. (2006). 'Education through research' at European universities: Notes on the orientation of academic research. *Journal of Philosophy of Education, 40*, 31-50.
- Simons, M., & Elen, J. (2007). The 'research-teaching nexus' and 'education through research': An exploration of ambivalences. *Studies in Higher Education, 32*, 617-631.
- Statistical Package for the Social Sciences Incorporated (1990). *SPSS Categories*®. Chicago: SPSS Inc.
- Stes, A., De Maeyer, S., & Van Petegem, P. (2008). Een Nederlandstalige versie van de ATI: Een valide instrument om onderwijsaanpak van docenten in het hoger onderwijs te meten? [A Dutch version of the ATI: A valid instrument to measure approaches to teaching in higher education?]. *Pedagogische Studiën, 85*, 95-106.
- Stes, A., Gijbels, D., & Van Petegem, P. (2008). Student-focused approaches to teaching in relation to context and teacher characteristics. *Higher Education, 55*, 255-267.
- Stes, A., Min-Leliveld, M.J., Gijbels, D., & Van Petegem, P. (in press). The impact of instructional development in higher education: A state-of-the-art of the research. *Educational Research Review*.
- Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. London: Sage Publications.
- Stupnisky, R.H., Renaud, R.D., Daniels, L.M., Haynes, T.L., & Perry, R.P. (2008). The interrelation of first-year college students' critical thinking disposition, perceived academic control, and academic achievement. *Research in Higher Education, 49*, 513-530.

References

- Thagard, P. (2005). How to be a successful scientist. In M. E. Gorman, R. D. Tweney, D. C. Gooding, & A. P. Kincannon (Eds.), *Scientific and technological thinking* (pp. 159-1771). Mahwah, NJ: Laurence Erlbaum Associates.
- Tigelaar, D.E.H., Dolmans, D.H.J.M., Wolfhagen, I.H.A.P., & Van der Vleuten, C.P.M. (2004). The development and validation of a framework for teaching competencies in higher education. *Higher Education*, *48*, 253-268.
- Tillema, H., & Orland-Barak, L. (2006). Constructing knowledge in professional conversations: The role of beliefs on knowledge and knowing. *Learning and Instruction*, *16*, 592-608.
- Trent, J.W., & Cohen, A.M. (1973). Research on teaching in higher education. In R.M.W. Travers (Ed.), *Second handbook of research on teaching* (pp. 997-1071). Chicago: Rand McNally College Publishing Company.
- Trigwell, K., & Prosser, M. (1996). Changing approaches to teaching: A relational perspective. *Studies in Higher Education*, *21*, 275-284.
- Trigwell, K., & Shale, S. (2004). Student learning and the scholarship of university teaching. *Studies in Higher Education*, *29*, 534-536.
- Trigwell, K., Martin, E., Benjamin, J., & Prosser, M. (2000). Scholarship of teaching: A model. *Higher Education Research and Development*, *19*, 155-168.
- Trope, Y. (1986). Identification and inferential processes in dispositional attribution. *Psychological Review*, *93*, 239-257.
- Turner, N., Wuetherick, B., & Healey, M. (2008). International perspectives on student awareness, experience and perceptions of research: Implications for academic developers in implementing research-based teaching and learning. *International Journal for Academic Development*, *13*, 199-211.
- Van der Rijst, R.M., & Jacobi, R.K. (2009). *Verwevenheid van onderzoek in het onderwijs aan de Universiteit Leiden: Curriculumanalyses van bacheloropleidingen Criminologie, Archeologie en MST* [The research-teaching nexus at Leiden University: Curriculum analysis of the bachelor programmes Criminology, Archaeology, and Molecular Science & Technology]. Rapport 191. Leiden, NL: ICLON – Leiden University Graduate School of Teaching.
- Van der Rijst, R.M., Kijne, J.W., Verloop, N., & Van Driel, J.H. (2008, April). *Exploring scientific research dispositions from the perspective of academics: A case study approach*. Paper presented at the annual conference of the National Association of Research in Science Teaching, Baltimore, USA.
- Van der Rijst, R.M., Van Driel, J.H., Kijne, J.W., & Verloop, N. (2007, August). *Scientific research dispositions in research, teaching and learning*. Paper presented at the biennial conference of European Association of Research in Learning and Instruction, Budapest, Hungary.
- Van der Rijst R.M., Visser-Wijnveen, G.J., Verstelle, T., & Van Driel, J.H. (2009). Studentbeleving van de onderzoeksintensiviteit van universitaire leeromgevingen [Student experience of the research intensiveness of learning environments at university]. *Pedagogische Studiën*, *86*(3), 214-229.

- Van Driel, J.H., Beijaard, D., & Verloop, N. (2001). Professional development and reform in science education: The role of teachers' practical knowledge. *Journal of Research in Science Teaching*, 38, 137-158.
- Van Driel, J.H., Bulte, A.M.W., & Verloop, N. (2007). The relationship between teachers' general beliefs about teaching and learning and their domain specific beliefs. *Learning and Instruction*, 17, 156-171.
- Van Driel, J.H., Verloop, N., & De Vos, W. (1998). Developing science teachers' pedagogical content knowledge. *Journal of Research in Science Teaching*, 35, 673-695.
- Van Driel, J.H., Verloop, N., Van Werven, H.I., & Dekkers, H. (1997). Teachers' craft knowledge and curriculum innovation in higher education. *Higher Education*, 34, 105-122.
- Van Tartwijk, J., Brekelmans, M., & Wubbels, Th. (1998). Students' perceptions of teacher interpersonal style: The front of the classroom as the teachers' stage. *Teaching and Teacher Education*, 14, 607-617.
- Verburgh, A., & Elen, J. (2006, December). *The influence of discipline and experience on students' perception of the relationship between teaching and research*. Paper presented at the annual conference of the Society of Research into Higher Education, Brighton, UK.
- Verloop, N., Van Driel, J.H., & Meijer, P. (2001) Teacher knowledge and the knowledge base of teaching. *International Journal of Educational Research*, 35, 441-461.
- Visser-Wijnveen, G.J., Van Driel, J.H., Van der Rijst, R.M., Verloop, N., & Visser, A. (in press). The relationship between academics' conceptions of knowledge, research and teaching – a metaphor study. *Teaching in Higher Education*.
- Visser-Wijnveen, G.J., Van Driel, J.H., Van der Rijst, R.M., Verloop, N., & Visser, A. (in press). The ideal research-teaching nexus in the eyes of academics – building different profiles. *Higher Education Research and Development*.
- Vereniging van Samenwerkende Nederlandse Universiteiten (2008). *Overeenkomst inzake wederzijdse erkenning basiskwalificatie onderwijs* [agreement on mutually excepted basic teaching qualification].
- Walshaw, M., & Anthony, G. (2008). The teacher's role in classroom discourse: A review of recent research into mathematics classrooms. *Review of Educational Research*, 78, 516–551.
- Wassink, H., Slegers, P., & Imants, J. (2003). Cause maps and school leaders' tacit knowledge. *Journal of Educational Administration*, 41, 524-546.
- Wubbels, Th., Brekelmans, M., & Hooymayers H.P. (1992). Do teacher ideals distort the self-reports of their interpersonal behavior? *Teaching and Teacher Education*, 8, 47-58.
- Wubbels, Th., Brekelmans, M., Den Brok, P., & Van Tartwijk, J. (2006). An interpersonal perspective on classroom management in secondary classrooms in the Netherlands. In C. Evertson & C. Weinstein (Eds.), *Handbook of classroom management: Research, practice, and contemporary issues* (pp. 1161–1191). Mahwah, NJ: Lawrence Erlbaum Associates.

- Young, P. (2006). Out of balance: Lecturers' perceptions of differential status and reward in relation to teaching and research. *Teaching in Higher Education, 11*, 191-202.
- Zubrick, A., Reid, I., & Rossiter, P. (2001). *Strengthening the nexus between teaching and research*. Canberra: Commonwealth of Australia.