

## Information for the November 14, 2014 TeachingWorks Journal Club Meeting

We will discuss the following two articles in this meeting:

**1. de Vries, S., Jansen, E.P.W.A., Helms-Lorenz, M. and W.J.C.M. van de Grift (2014). Student teachers' beliefs about learning and teaching and their participation in career-long learning activities. *Journal of Education for Teaching*, 40(4): 344-358.**

**2. Mattern, J. and J. Bauer (2014). Does teachers' cognitive self-regulation increase their occupational well-being? The structure and role of self-regulation in the teaching context. *Teaching and Teacher Education*, 43: 58-68.**

In addition, bibliographic information is below for other relevant articles published in the following journals between August 15, 2014 and October 15, 2014.<sup>1</sup>

*Journal of Teacher Education*  
*American Educational Research Journal*  
*Elementary School Journal*  
*Journal of Curriculum Studies*  
*Teachers College Record*  
*Educational Evaluation and Policy Analysis*  
*Teaching and Teacher Education*  
*Journal of Education for Teaching: International Research and Pedagogy*

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Alcorn, N. (2014). Teacher education in New Zealand 1974–2014. *Journal of Education for Teaching*, 40(5): 447-460.

New Zealand teacher education has been profoundly affected by major social and economic changes since 1974. From a separate sector controlled by the Department of Education, it has moved through deregulation to largely university provision with research imperatives for staff. Programme scope has broadened to embrace early childhood and the continuing education of teachers. Current concerns are the impact of performativity, funding challenges and external compliance. New directions have often been a response to issues of supply or political ideology rather than considered policy. The way forward is uncertain.

Auhl, G. and G.R. Daniel (2014). Preparing pre-service teachers for the profession: Creating spaces for transformative practice. *Journal of Education for Teaching*, 40(4): 377-390.

Within professional learning communities, the processes of shared reflection and critique, or critical transformative dialogues are considered crucial for the maintenance and improvement of professional practice. This paper focuses on the development of the processes of critical transformative dialogues and their application in the professional development of pre-service teachers. Participants reported a growing understanding of the importance of a continuing critical dialogue, and an appreciation of the value that critical feedback has in developing professional skills. The paper argues for the value of providing spaces for early engagement in the processes of critical transformative dialogue as part of professional preparation. A cumulative model of

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<sup>1</sup> For the November 14, 2014, TeachingWorks journal club we considered the following journals: *American Educational Research Journal* (October 2014, 51(5)); *Educational Evaluation and Policy Analysis* (no new issues since last meeting: September 2014, 36(3)); *Elementary School Journal* (no new issues since last meeting: September 2014, 115(1)); *Journal of Curriculum Studies* (2014, 46(5)); *Journal of Education for Teaching: International Research and Pedagogy* (2014, 40(4); 2014, 40(5)); *Journal of Teacher Education* (no new issues since last meeting: September/October 2014, 65(4)); *Teachers College Record* (116(8), 116(9), 116(10)); *Teaching and Teacher Education* (October 2014, 43; November 2014, 44).



transformative practice for supporting pre-service teachers' emerging schema for teaching is proposed.

Beach, D., Bagley, C., Eriksson, A. and C. Player-Koro (2014). Changing teacher education in Sweden: Using meta-ethnographic analysis to understand and describe policy making and educational changes. *Teaching and Teacher Education*, 44: 160-167.

This article derives from policy ethnographic research on teacher-education change in Sweden concerning the development of a unified profession with a common professional-knowledge base. This was a social democratic government policy for teacher education from the 1950s up until 2007, when the newly elected right wing government turned away from unification and toward re-traditionalisation. Based on a meta-ethnographic analysis of the policy ethnographies the article illustrates resistance toward unification and raises critical questions concerning the intellectual foundations and integrity of reform processes. Attempts are also made to locate the disclosures in relation to international research.

Berger, E., Hasking, P. and A. Reupert (2014). Response and training needs of school staff towards student self-injury. *Teaching and Teacher Education*, 44: 25-34.

Although school staff are in a prime position to intervene with students who self-injure, how they respond to these students and their training needs regarding self-injury have not been examined. The aims of this study were to explore the responses and training needs of school staff towards youth self-injury. Pre- and in-service teachers and other school staff (N = 768) completed open-ended questions. Results suggested that school staff require training to respond effectively and confidently to students who self-injure. Self-injury education programs may enhance the knowledge and confidence of staff to detect and respond to students who self-injure.

Bullough, R.V. (2014). Recalling 40 years of teacher education in the USA: A personal essay. *Journal of Education for Teaching*, 40(5): 474-491.

Taking the form of a personal essay, the author describes developments within teacher education in the USA over a 40-year period, since the founding of JET. Beginning with his work within teacher education as a graduate student and moving across time, he describes major movements in teacher education, discusses several of the most influential ideas within the field and, by drawing on publications of the period, notes the influence of certain political and education figures. In many respects, the tale is one of the politicalisation of education and teacher education, the rise of neoliberalism, and the loss of teacher educator control of programmes and programme content and, in some respects, the undermining of educational quality. Yet, it is also a story of remarkable moments of innovation and of the consistent dedication of educators to the cause of better education.

Chang-Kredl, S. and S. Kingsley (2014). Identity expectations in early childhood teacher education: Pre-service teachers' memories of prior experiences and reasons for entry into the profession. *Teaching and Teacher Education*, 43: 27-36.

In the context of preparing early childhood teachers for a field with high attrition rates, this Canadian study examines pre-service teachers' identity expectations. Pre-service teachers wrote biographical narratives describing memories that influenced their reasons for choosing the teaching profession. Fifty-three narratives were analyzed. Implications from the study's findings suggest that teacher educators: 1) attend to the emotional dimensions of pre-service teachers' memories and identities; 2) help pre-service teachers access and articulate their tacit expectations about teaching; 3) address the image of the teacher as role model; and 4) attend to the political aspects of a prospective teacher's convictions.

Clarà, M. (2014). Understanding teacher knowledge from a Cultural Psychology approach. *Teaching and Teacher Education*, 43: 110-119.

In this paper we propose a Cultural Psychology approach to teacher knowledge which assumes that: 1) mental representations are directly observable, and 2) the relationship between different kinds of representations is co-mediational. The paper sets out such an approach, providing



arguments to support these two alternative premises; outlining a methodology, based on social linguistics, for the direct observation of representations; and articulating the relationship between three types of representations: situational representations, specific propositional representations, and general propositional representations. We discuss the implications of this approach for research and practice in teacher education.

de Vries, S., Jansen, E.P.W.A., Helms-Lorenz, M. and W.J.C.M. van de Grift (2014). Student teachers' beliefs about learning and teaching and their participation in career-long learning activities. *Journal of Education for Teaching*, 40(4): 344-358.

Career-long teacher learning is essential to the teaching profession because it is strongly connected with teacher quality and practices. Student teachers in the first stage of their career-long learning continuum, however, vary in the extent to which they participate in learning activities. This study explores the relationship between beliefs about learning and teaching and participation in learning activities among student teachers, in a school-based teacher education setting for secondary education in the Netherlands. The results indicate that student teachers vary in their beliefs. Structural equation modelling analysis shows that pupil-oriented beliefs are positively related to self-reported participation in learning activities; no relationship emerges between subject matter-oriented beliefs and learning. A cluster analysis reveals two distinct belief profiles, and the findings confirm the relationship to participation in learning activities. Implications for teacher education programmes intended to enhance the chances that their student teachers will become pupil-oriented, career-long learning professionals are discussed.

Ely, E., Kennedy, M.J., Pullen, P.C., Williams, M.C. and S.E. Hirsch (2014). Improving instruction of future teachers: A multimedia approach that supports implementation of evidence-based vocabulary practices. *Teaching and Teacher Education*, 44: 35-43.

Teacher education efforts must prepare future teachers to implement evidence-based practices that are effective for all students. A strand of practices necessary for reading competence is vocabulary instruction; however, teachers spend less time teaching vocabulary as opposed to other literacy skills. In this experimental study, researchers investigated a multimedia-based intervention, which pairs video with a Content Acquisition Podcast (i.e., video plus CAP) to teach preservice teachers (N = 49) to implement vocabulary practices with struggling students. Those who watched the video plus CAP used significantly more teaching behaviors associated with an evidence-based vocabulary practice during instruction than the comparison group.

Flores, M.A. and L. Niklasson (2014). Why do student teachers enrol for a teaching degree? A study of teacher recruitment in Portugal and Sweden. *Journal of Education for Teaching*, 40(4): 328-343.

This paper reports on findings from an exploratory study carried out in Portugal and Sweden, concerning student teacher recruitment to Initial Teacher Education (ITE) programmes. It addresses issues such as the motivations and expectations of the student teachers regarding the teaching profession. Drawing upon existing related literature, a questionnaire was designed and sent to student teachers in Portugal and in Sweden. In total, 112 and 157 student teachers participated in the study, respectively. Data suggest a given profile of a student teacher making it possible to analyse some of key characteristics in both countries. The comparison between countries in combination with suggestions and recommendations from student teachers indicate that the recruitment process may be supported if the information about the design, content and the aims of ITE programmes are clarified and made explicit.

Gao, S. and J. Wang (2014). Teaching transformation under centralized curriculum and teacher learning community: Two Chinese chemistry teachers' experiences in developing inquiry-based instruction. *Teaching and Teacher Education*, 44: 1-11.

The establishment of centralized curriculum standards and school-based teacher learning communities are presumably necessary to reform science teaching towards inquiry-based instruction in many countries. Drawing on interview, document, and unit plan data from two high school chemistry teachers in China, this study examines these assumptions. Findings indicated that both teachers developed different kinds of science teaching practices despite working under



the centralized science curriculum and school-based teacher learning communities. Different teaching experiences of the two teachers and their school cultures of teaching interacted with the centralized curriculum and teacher teaching community to consequently shape their teaching practices in different ways.

Gilroy, P. (2014). Policy interventions in teacher education: Sharing the English experience. *Journal of Education for Teaching*, 40(5): 622-632.

Over the last 40 years, teacher education in England has been the focus of a stream of "reforms" with the ultimate aim of placing provision into schools, the justification for such a radical policy being that higher education is alleged to be failing to provide good quality teachers thereby compromising the social and economic development of the country. The process whereby these reforms have been introduced is described and then used as a way of comparing and contrasting the way in which similar reforms can be identified in the international teacher education communities represented in this special issue of the *Journal of Education for Teaching* (JET). The paper closes by identifying lessons that can be learned from international comparators.

Gray, D. and D. Weir (2014). Retaining public and political trust: Teacher education in Scotland. *Journal of Education for Teaching*, 40(5): 569-587.

This paper traces the key periods, players and events which have contributed to the shaping of the current landscape of teacher education in Scotland. Starting with the Wheatley Report and the formation of the General Teaching Council (Scotland) in the 1960s through to the most recent Donaldson Review of Teacher Education, we examine ebb and flow amongst GTCS, government, colleges of education and universities. Following its own trajectory, Scottish Education resisted and rejected policies emanating from an "English" ideology, capitalised on respect for and influence of the GTCS, and successfully moved teacher education's base from autonomous colleges to high-status universities. At the core of teacher education in Scotland is the continuing desire for partnership-working amongst key stakeholders: local and national government, GTCS, schools, teacher education institutions, teaching unions, parents and pupils. A teaching profession of trained graduates, underpinned by university-led subject study, is now moving steadily towards Masters-level professional learning for all. Although having faced some troubled episodes, this period has also been characterised by remarkable stability and consensus and, although still tackling the improvement agenda suggested by the recent Donaldson review, teacher education in Scotland has retained a high degree of public and political trust.

Hettiarachchi, S. and A. Das (2014). Perceptions of 'inclusion' and perceived preparedness among school teachers in Sri Lanka. *Teaching and Teacher Education*, 43: 143-153.

This study examined the preparedness of regular and special education teachers in Sri Lanka to teach students with disabilities in an inclusive educational setting. It also explored their perceptions of the term 'inclusion' and its applicability to the Sri Lankan context. A total of 75 teachers were surveyed using a two-part questionnaire. In addition, semi-structured interviews were conducted with eight teachers. The interview data was analyzed using Framework Analysis and the quantitative survey data was analyzed using descriptive statistics. Special education teachers indicated higher perceived competence in working with students with special needs compared to general education teachers. Implications for teacher preparation via pre-service and in-service training are discussed.

Howe, E.R. (2014). A narrative of teacher education in Canada: Multiculturalism, technology, bridging theory and practice. *Journal of Education for Teaching*, 40(5): 588-599.

This narrative paper investigates a number of enduring and emerging themes reflecting teacher education in Canada over the past 40 years, including changes in information and communication technology, bridging gaps in theory and practice, English as a second language, French immersion and multicultural teacher development. Canadian teacher education programmes have become famous for their long-standing commitment to public education and social welfare. This paper examines the way in which over the past four decades such a commitment has led to effective leadership, multiculturalism, racial tolerance and global citizenship education, as well as

comprehensive curriculum, teaching and learning, all figure prominently in Canadian teacher education.

Hwang, H. (2014). The influence of the ecological contexts of teacher education on South Korean teacher educators' professional development. *Teaching and Teacher Education, 43*: 1-14.

This study is designed to explore how the ecological context of teacher education influences affect South Korean teacher educators' professional development. Research findings reveal that South Korean teacher educators' concerns about their professional development are mainly related to conducting research influenced by global, political, social, and institutional influences together. The global influences permeate lower contextual levels in order and appear as concrete policies affecting teacher educators' work. As a result of an environment that favors academic achievement in various levels of the ecological contexts of teacher education, South Korean teacher educators desire more international academic communication.

Jaspers, W.M., Meijer, P.C., Prins, F. and T. Wubbels (2014). Mentor teachers: Their perceived possibilities and challenges as mentor and teacher. *Teaching and Teacher Education, 44*: 106-116.

This interview study, including seven case studies of mentor teachers in primary education, explores the possibilities and challenges these mentor teachers perceive when they (sequentially and simultaneously) combine the teacher and mentor roles. Mentor teachers perceive two challenges while simultaneously performing both roles in the same classroom: to transfer (or not) responsibility for the class and pupils to the student teacher and to intervene (or not) in classroom procedures. Mentor teachers felt that being the teacher of the pupils was their primary task, and being a mentor of the student teacher generally was perceived as an aside and additional task.

Jordan, M.E., Kleinsasser, R.C. and M.F. Roe (2014). Wicked problems: Inescapable wickedity. *Journal of Education for Teaching, 40*(4): 415-430.

The article explores the concept of wicked problems and proposes a reinvigorated application of this concept for wider educational use. This recommendation stems from the contributions of a number of scholars who frame some of the most contentious and recalcitrant educational issues as wicked problems. The present authors build upon these previous explorations of wickedity and initially apply it to literacy learning. They then discuss the relevance for wicked responses and wicked actions for the wider educational community (e.g. parents, teachers, policy-makers, teacher educators and educational researchers). The authors conclude with three proposals for understanding and addressing wickedity: (a) promoting careful observation and continuous curiosity, (b) increasing conversations with diverse stakeholders and (c) engaging in collective and distributed sense-making.

Kemmis, S., Heikkinen, H.L.T., Fransson, G., Aspfors, J. and C. Edwards-Groves (2014). Mentoring of new teachers as a contested practice: Supervision, support and collaborative self-development. *Teaching and Teacher Education, 43*: 154-164.

This article examines contested practices of mentoring of newly qualified teachers within and between Australia (New South Wales), Finland and Sweden. Drawing on empirical evidence from a variety of studies, we demonstrate three archetypes of mentoring: supervision, support and collaborative self-development. Using the theory of practice architectures, we show that (1) these three forms of mentoring represent three different projects: (a) assisting new teachers to pass through probation, (b) traditional mentoring as support, and (c) peer-group mentoring; and (2) these different projects involve and imply quite different practice architectures in the form of different material-economic, social-political and cultural-discursive arrangements.

Kissling, M.T. (2014). Now and then, in and out of the classroom: Teachers learning to teach through the experiences of their living curricula. *Teaching and Teacher Education, 44*: 81-91.

How, when, and where do teachers learn to teach? Guided by this question, this article examines the relationships between teachers' living and teaching experiences. Through narrative inquiry, it stories "curricular currents" of three teachers from different teaching contexts, noting the continuity, interaction, and place of the experiences that comprise these currents. It argues that



these teachers have learned to teach through their “living curricula,” across all times and places of their lives, not just classroom moments. It concludes by charging teacher education to attend closely to teachers' exploration and analysis of their lives' experiences, in and out of classrooms.

Kuusisaari, H. (2014). Teachers at the zone of proximal development – Collaboration promoting or hindering the development process. *Teaching and Teacher Education*, 43: 46-57.

This study focuses on collaborative teacher learning during an in-service education course that supports teachers in creating knowledge and practices for teaching. The study investigates what types of activity support or hinder collaborative development within more-or-less successful teacher teams' group discussions. The findings indicate that collaboration that supports collaborative development consists of ideation, further development of ideas and raising questions. Excessive agreement appears to prevent successful collaborative development. The study suggests that in symmetrical peer-to-peer collaboration, equals are able to support creative collaboration by revising and questioning developed constructions and the developmental process itself, through the application of theoretical knowledge.

Langdon, F.J., Alexander, P.A., Ryde, A. and P. Baggetta (2014). A national survey of induction and mentoring: How it is perceived within communities of practice. *Teaching and Teacher Education*, 44: 92-105.

The purpose of this study was to conduct a national survey of induction and mentoring. Participants were 696 New Zealand school personnel from primary and secondary schools. Respondents were drawn from five regions of the country representing both urban and rural schools of differing socioeconomic levels. Based on data from the Langdon Induction and Mentoring Survey, main effects for professional role and school sector were found. Also, several significant interactions were identified, such as for professional role by socioeconomic level. There were also effects for mentors who volunteered and who participated in professional development versus those who did not.

Margolis, J., Hodge, A. and A. Alexandrou (2014). The teacher educator's role in promoting institutional versus individual teacher well-being. *Journal of Education for Teaching*, 40(4): 391-408.

This article addresses the teacher educator's role in defining and facilitating teacher well-being. It does so by first exploring the literature on teacher well-being, resilience, resistance, morality and professional dispositions. It then examines the policies and rhetoric of two countries, the USA and England, as examples of a global tilt towards the excessive promotion of institutional well-being at the expense of individual teachers. It concludes with specific recommendations at the university programme and teacher educator levels for bringing individual and institutional well-being into better balance. These include: innovating sustained and reciprocal university-school partnerships; helping new teachers become "mindful" rather than solely resistant; analysing cases of teaching to become more aware of macro vs. micro influences; and facilitating skills in taking oppositional stances, including within the teacher educator's own classroom.

Mattern, J. and J. Bauer (2014). Does teachers' cognitive self-regulation increase their occupational well-being? The structure and role of self-regulation in the teaching context. *Teaching and Teacher Education*, 43: 58-68.

Cognitive self-regulation is assumed to foster teachers' occupational well-being (their level of emotional exhaustion and job satisfaction), which directly impacts the quality of their work. We investigated (1) the factor structure of teachers' cognitive self-regulation, (2) whether self-regulation fosters teachers' job satisfaction by reducing emotional exhaustion, and (3) whether this relationship is moderated by gender and school track. Structural equation modeling (N = 664 German secondary mathematics teachers) confirmed the hypothesized second-order factor structure of teacher self-regulation. The positive effect of cognitive self-regulation on job satisfaction is mediated by emotional exhaustion and can be generalized across gender and school track.



Mayer, D. (2014). Forty years of teacher education in Australia: 1974–2014. *Journal of Education for Teaching*, 40(5): 461-473.

In this paper, I analyse the history of teacher education in Australia from 1974 to the current policy moment in which questions are increasingly being asked about the quality of teaching and teacher education. Teacher education is, and has been, a highly scrutinised domain in Australia. Since the 1970s, we have seen more than 100 reviews of teacher education in Australia, with another one recently announced in 2014. I focus on three phases in the growth and development of teacher education in the past 40 years by considering the ways in which teacher education (and teaching) has been thought about at various points in time and analysing the related policies for funding governance and regulation. I finish by focusing on the current policy moment in Australia which is positioning teacher education as a "policy problem" requiring a national solution and consider the role of research in, on and for, teacher education into the future.

Moscardini, L. (2014). Developing equitable elementary mathematics classrooms through teachers learning about children's mathematical thinking: Cognitively Guided Instruction as an inclusive pedagogy. *Teaching and Teacher Education*, 43: 69-79.

This paper reports on a study carried out in Scotland which involved introducing the principles of Cognitively Guided Instruction (CGI) to 21 mainstream elementary teachers. It considers the effects of developing CGI in classrooms focussing on teacher learning and particularly their capacity to support all learners. The findings demonstrate teachers' awareness of their own learning and how increased understanding of children's mathematical thinking left them better placed to support all learners. The study highlights the importance of developing teachers' knowledge of children's mathematical thinking in order to promote inclusive practices with CGI providing a useful framework for this professional development.

Murray, J. and R. Passy (2014). Primary teacher education in England: 40 years on. *Journal of Education for Teaching*, 40(5): 492-506.

This article examines the relationship between pre-service teacher education (ITE) for primary schooling and primary teaching in England between 1974 and 2014, and explores the "fitness of purpose" of the current system of preparing teachers for the classrooms of the twenty-first century. Our historical analysis suggests that, despite 40 years of change in ITE, there are still a number of unresolved issues in ITE. These include: how to prepare for the multisubject, class teacher role which the majority of primary teachers still undertake; how to equip future teachers to deal with the social and emotional aspects of primary teaching; how to ensure that they are creative and flexible practitioners, able to cope with the demands of future curricula, pedagogical changes and the new roles and responsibilities which will inevitably occur during the course of their teaching careers in the next decades of this century; and how to structure ITE to provide adequate long-term foundations for the necessary professional development as a teacher.

Niemi, H. and A. Nevgi (2014). Research studies and active learning promoting professional competences in Finnish teacher education. *Teaching and Teacher Education*, 43: 131-142.

The purpose of this study is to investigate how student teachers benefit from authentic researcher experiences as part of their pre-service education. The data were collected by electronic questionnaires (n = 287) at two Finnish Universities. Teacher education programs guided student teachers to use and conduct research in the teaching profession. The results indicate that student teachers value research experiences. Research studies promoted professional competences and supported students' growth toward evidence-based practice and 21st century skills. Active learning experiences reinforced this positive effect. The implementation of research studies, quality of supervisors and integration with other studies were crucial.

Peček, M., Macura-Milovanović, S. and N. Vujisić-Živković (2014). The cultural responsiveness of teacher candidates towards Roma pupils in Serbia and Slovenia – Case studies. *Journal of Education for Teaching*, 40(4): 359-376.

In many countries, there is a growing need for teacher awareness and sensitivity to cultural differences, what is often called culturally responsive teaching. This is why teacher education



institutions are making significant efforts to require student teachers to enrol in courses that focus on understanding, tolerance and acceptance of differences in others. Determining beliefs of student teachers towards the diversity of pupils at the onset of their studies is critical for providing teacher education that more efficiently challenges implicit beliefs and biases. The main objective in this paper is therefore to determine the initial beliefs of student teachers concerning the Roma population, Europe's largest ethnic minority. Research was conducted at the Faculty of Education at the University of Ljubljana in Slovenia and the Teacher Training Faculty at the University of Belgrade in Serbia. The results of the study suggest that most student teachers are in favour of schooling Roma pupils in regular schools; however, most of them would not like to have them in their classes. Most student teachers are aware of the discrimination against Roma pupils in schools; however, they are not ready to engage in closer interactions with Roma families. The implications of these findings for teacher education programmes are subsequently discussed.

Rolando, L.G.R., Salvador, D.F., Souza, A.H.S. and Luz, M.R.M.P. (2014). Learning with their peers: Using a virtual learning community to improve an in-service Biology teacher education program in Brazil. *Teaching and Teacher Education*, 44: 44-55.

This study investigated the use of a virtual learning community (VLC-Bio) combined to an online teachers' professional development program. VLC-Bio enabled the sharing of biological knowledge, teaching methods and didactic resources. Although they presented a limited initial profile of internet use directed to socialization, the results indicated that participation in the VLC-Bio focused internet use for teaching and learning purposes. The VLC-Bio offered opportunities to develop the ability to learn from their peers about how to deal with matters of difficult approach in everyday school life, as well as of sharing resources for Biology education that are frequently lacking.

Ronfeldt, M., Schwartz, N. and B.A. Jacob (2014). Does pre-service preparation matter? Examining an old question in new ways. *Teachers College Record*, 116(10): 1-46.

**Background:** Over the past decade, most of the quantitative studies on teacher preparation have focused on comparisons between alternative and traditional routes. There has been relatively little quantitative research on specific features of teacher education that might cause certain pathways into teaching to be more effective than others. The vast majority of evidence on features of preservice preparation comes from qualitative case studies of single institutions that prepare teachers. Among the few large-scale cross-institution studies that exist, most provide only descriptive trends that fail to account for teacher and school characteristics that might explain apparent relationships in the data. Additionally, these studies typically look at state- or district-level data, providing little information on national trends.

**Purpose:** Focusing on two features of preparation commonly targeted by certification policies, this study asks: Does completing more practice teaching and methods-related coursework predict teachers' retention and perceived instructional preparedness? Do the results vary for different kinds of teachers and schools?

**Research Design:** This is a secondary analysis of data from the two most recent administrations of the Schools and Staffing Survey (SASS), a nationally representative survey of teachers that includes information about preservice preparation, retention, and perceptions of preparedness. We link surveyed teachers to Common Core of Data on their schools and to Barron's ratings of college competitiveness.

**Data Analysis:** We use linear and logistic regression with state and district fixed effects, as well as comprehensive controls for school and teacher characteristics, to estimate whether completing more practice teaching and methods-related coursework predicts teachers' self-perceived instructional preparedness and persistence in the profession.

**Findings:** We find that teachers who completed more methods-related coursework and practice teaching felt better prepared and were more likely to stay in teaching. These positive relationships were similar across alternative and traditional routes and tended to be greater among graduates from competitive colleges, males, and mathematics and science teachers, as well as teachers in urban, rural, and secondary schools.





**Conclusions:** Our study provides some of the best suggestive evidence to date that teacher education programs, and certification policies that influence them, can improve teachers' preparedness and persistence by increasing requirements for practice teaching and methods-related coursework. Policy makers often consider reducing preparation requirements to increase the supply of academically talented and underrepresented teacher groups. Finding these groups to be at least as, and usually more, responsive to additional preparation raises some concern that reducing requirements could have negative consequences for their preparedness and retention.

Samuel, M. (2014). South African teacher voices: Recurring resistances and reconstructions for teacher education and development. *Journal of Education for Teaching*, 40(5): 610-621.

This paper will focus on the shifts in discourses about teacher education and teacher voice within the South African research and policy environment over the last four decades. The alignment of the political and educational agenda in providing resistance to the apartheid system culminated in 1994, the start of the new democracy. The preceding 20 years (1974-1994) were characterised by defiance of the subjugation of teachers' voices, and the need to find agency amongst teachers. The shifting agenda of the strong teacher union movement during these resistance years and within the post-apartheid 20 years (1994-2014) is the subject of this paper. The attempt to generate a focus on teacher professional quality agendas is presently becoming increasingly challenging. Has the teacher agency agenda produced a disregard for teacher professional development? Are teachers protective of their own inadequacies to enact the transformation for which they campaigned? Are the new educational authorities reverting to yet another form of earlier accountability and performativity regimes to regulate teachers? The paper traces a critical account of these shifting historical trends in activating teacher voice. It argues for "deliberative action" to reassert teacher voice.

Sorensen, P. (2014). Collaboration, dialogue and expansive learning: The use of paired and multiple placements in the school practicum. *Teaching and Teacher Education*, 44: 128-137.

This study examines the way in which paired or multiple placements of student teachers in the school practicum can support learning through the promotion of collaboration and dialogue. It draws on data collected across six higher education institution (HEI)-secondary schools partnerships in England and focuses on a series of 20 case studies from one partnership. The results suggest that peer placements can support more expansive and deeper learning, especially where attention has been given to the structuring of the placements and the role of the mentor or cooperating teacher. In such cases there are also reciprocal benefits for the school.

Struyven, K. and G. Vanthournout (2014). Teachers' exit decisions: An investigation into the reasons why newly qualified teachers fail to enter the teaching profession or why those who do enter do not continue teaching. *Teaching and Teacher Education*, 43: 37-45.

This study investigates the motives for teacher attrition of newly qualified teachers who never started a teaching career and those dropping out after a short period. A survey was conducted among teachers with (N = 154) and without (N = 81) teaching experience. Five reasons for attrition were discerned: job satisfaction, school policies, workload, future prospects and relations with parents. The results demonstrated that a lack of future prospects was the predominant reason for attrition. The effect of teaching experience was significant for most motives, in addition to the impact of gender or teaching qualification. Teachers with experience do not take exit decisions lightly.

Suzuki, S.i. (2014). Toward professionalisation or de-professionalisation? Teacher education over the past 40 years: A Japanese retrospection. *Journal of Education for Teaching*, 40(5): 524-542.

In this paper, I will discuss how to enhance Japanese teacher education. After sketching teacher education from the mid-1940s to the 1960s, I sum up the main topics people discussed through each decade of the 1970s, 1980s, 1990s. Illustrating some of the current topics of teacher education in the first decade of the new century, I discuss what they would create by way of introducing a new type of Graduate School into the teacher education institutions, which raises



the question whether Graduate Schools heighten teachers' professionalism or not. In conclusion, I propose an ideal network for promoting teaching expertise.

Thomson, M.M. and C. Palermo (2014). Preservice teachers' understanding of their professional goals: Case studies from three different typologies. *Teaching and Teacher Education*, 44: 56-68.

This study presents three prospective teachers from different typologies describing their teaching goals. Findings illustrate how participants understand in unique ways their goals in relationship with influential factors that helped them crystallize their teaching decisions. Each individual describes goals as related to main teaching motives, identity issues, beliefs, emotions, and commitment. Implications for practice include teacher education programs and policymakers better understanding the personal characteristics of teacher candidates and tailoring their programs to meet the individual needs of future teachers.

Thongthew, S. (2014). Changes in teacher education in Thailand 1978–2014. *Journal of Education for Teaching*, 40(5): 543-550.

This paper reviews the long attempt to transform teacher education in Thailand. Although a brief summary of educational systems and models of teacher preparation from 1892 to 1973 has been provided, the prime focus of the paper is on presenting changes in teacher education from 1974 to the present day, against the backdrop of key political and social forces.

Tirri, K. (2014). The last 40 years in Finnish teacher education. *Journal of Education for Teaching*, 40(5): 600-609.

This article sets out to identify and discuss the changes that have taken place in Finnish teacher education during the last 40 years (1974-2014). A brief history of teacher education in Finland is presented, followed by the goals and aims of current research-based teacher education in Finland. Finally, the major changes in Finnish teacher education during the last 40 years are identified and discussed along with challenges for the future. These include the fact that with each passing year teacher education in Finland has become increasingly research-based. The ethical role of the Finnish teacher has changed from being a religious and moral example to being a principled professional who needs moral competence in pedagogical encounters. Teachers also need to master the rapid developments in information and communication technology in order to function in the same learning environments as their students.

Vanassche, E. and G. Kelchtermans (2014). Teacher educators' professionalism in practice: Positioning theory and personal interpretative framework. *Teaching and Teacher Education*, 44: 117-127.

This study connects to the international call for research on teacher educator professionalism. Combining positioning theory with the personal interpretative framework, we examined the relationship between teacher educators' positioning and their teacher education practices. The interpretative analysis of qualitative data from twelve experienced Flemish teacher educators revealed three teacher educator positionings: a teacher educator of 'pedagogues', a teacher educator of reflective teachers, and a teacher educator of subject teachers. Each positioning constitutes a coherent pattern of normative beliefs about good teaching and teacher education, the preferred relationships with student teachers, and valuable methods and strategies to enact these beliefs.

Wang, X., Kim, B., Lee, J.W.Y. and M.S. Kim (2014). Encouraging and being encouraged: Development of an epistemic community and teacher professional growth in a Singapore classroom. *Teaching and Teacher Education*, 44: 12-24.

This paper discusses a case study of a teacher's effort in a Singapore secondary school to develop an epistemic community in the classroom, in collaboration with university researchers. There is a growing interest in the types of professional development that make direct connections to teachers' everyday teaching. Researchers found that efforts made within the school context are much more effective for teachers' professional growth. We illustrate the process of the teacher's developing and enacting strategies in classroom practices using the Interconnected

Model of Teacher Professional Growth, and suggest that individual teachers could develop their expertise together with students.

Zeichner, K. (2014). The struggle for the soul of teaching and teacher education in the USA. *Journal of Education for Teaching*, 40(5): 551-568.

This paper discusses changes over the last 40 years in teacher education in the USA that have resulted in two very different strategies for improving the preparation of teachers and in substantial inequities in the distribution of the teaching force. The strengths and limitations of promoting greater deregulation and privatisation versus investing in strengthening the dominant college and university system of teacher education are discussed. A case is presented for rejecting the deregulation and privatisation agenda and for reinventing college and university-based programmes.

Zhou, J. (2014). Teacher education changes in China: 1974–2014. *Journal of Education for Teaching*, 40(5): 507-523.

The Chinese Government has conducted a series of top-down reforms of teacher education over the past several decades. The reforms have established a relatively stable teacher education system, regulated teacher education programmes and curricula, and provided opportunities for in-service teachers to be trained and to upgrade their educational credentials. Teacher education institutions have been upgraded, merged and made comprehensive, and they have initiated some innovative approaches. However, the teacher education process has not changed considerably, and most problems have not been solved. These problems have influenced the quality of teacher education.

**Mattern, J. and J. Bauer (2014). Does teachers' cognitive self-regulation increase their occupational well-being? The structure and role of self-regulation in the teaching context. *Teaching and Teacher Education*, 43: 58-68.**

*Abstract:*

*Cognitive self-regulation is assumed to foster teachers' occupational well-being (their level of emotional exhaustion and job satisfaction), which directly impacts the quality of their work. We investigated (1) the factor structure of teachers' cognitive self-regulation, (2) whether self-regulation fosters teachers' job satisfaction by reducing emotional exhaustion, and (3) whether this relationship is moderated by gender and school track. Structural equation modeling (N = 664 German secondary mathematics teachers) confirmed the hypothesized second-order factor structure of teacher self-regulation. The positive effect of cognitive self-regulation on job satisfaction is mediated by emotional exhaustion and can be generalized across gender and school track.*

Summary prepared by Stephen Aguilar and Stuart Karabenick.

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## **Background**

This article focuses on how cognitive self-regulation strategies can support teachers in the work they accomplish outside of school, and ultimately lead to more job satisfaction. The authors use and extend self-regulated learning (SRL) conceptualizations that are traditionally used to refer to students' self-regulated learning. Specifically, "teacher self-regulation refers to strategies that the teachers execute in their work environment to reach professional goals and overcome professional obstacles such as a high workload" (p. 59). Examples of these strategies include "planning, goal-setting, monitoring, time management, persistence, and self-reflection" (p. 59).

The authors' focus is on work that is done outside of school, i.e., any demand that is required, but not within the scope of instruction during the teaching day. They argue that work that is done outside of the school can negatively influence teachers' well-being and job satisfaction because work that occurs outside of school can be time consuming (e.g. grading), emotionally taxing, and can lead to exhaustion if not managed well. Their hypothesis is that self-regulated strategies will mitigate the effects of this.

To test this hypothesis the authors use a multi-faceted approach that begins with validating a self-regulation instrument (RQ1) to see if teacher self-regulation is a "large" construct (i.e., teachers must work on self-regulation, in general), or if there are "smaller" constructs that all *components* of self-regulation (e.g., action planning, self-monitoring). They then test whether or not self-regulation "works alone" in predicting job satisfaction, or if it works "through" (is mediated) via emotional exhaustion (RQ2). For example, a self-regulated teacher might experience less emotional exhaustion, and thus be more likely to have more job satisfaction. Finally, the authors test whether or not their model can be generalized across gender, and across the types of German schools.

## **Research Questions**

- RQ1: "...whether the often validated second-order factor structure of self-regulated learning (Pintrich, 200; Zimmerman, 2000) applies to the context of teachers' self-regulated work performed outside school" (p. 62).
  - In other words: Is teacher self-regulation (in contexts outside of school), one "big" construct that is measured via various questions, or is it made up of four "smaller" factors



(i.e., constructs) that can each be measured independently?

- RQ2: "...whether the hypotheses in the discussed mediation model of the effect of cognitive self-regulation while working on tasks outside school on occupational well-being hold true" (p. 62).
  - In other words: Does teacher self-regulation predict job satisfaction, and is it mediated by (works through) emotional exhaustion?
- RQ3: "...whether the assumed relationships between cognitive self-regulation, emotional exhaustion, and job satisfaction can be generalized across gender and school track" (p. 62).
  - In other words: Does self-regulation function similarly regardless of gender or school track?

## Methods

### Overview

Since the authors were testing the components of their proposed self-regulation construct, as well as what outcomes that construct predicted, the authors used Structural Equation Modeling (SEM). SEM is made up of two main components, a "measurement" model, and a "path" model.

A measurement model is used to test the components of a psychological construct that is difficult to measure. Self-regulation, for example, is as much a psychological orientation as it is a set of actions. If a teacher has "high" self-regulation, however, then they will likely answer questions about self-regulation a certain way. Constructs, then, are like "centers of gravity" that "attract" certain types of responses.

A path model measures relationships between two (or more) constructs. Coefficients in the model can be read the same way correlation coefficients are: the stronger the relationship between two constructs, the larger the coefficient. Also like correlations, it is important to keep the sign of the coefficient into account. Path models are used to illustrate how a set of variables relate to one another. Think of an SEM diagram like a "web" of regression equations.

### Sample

- 2012 German PISA Data
- *N* = 664 Math Teachers
  - 55.1% Female
  - 99 German Schools, 4 Federal States
  - 88.5% Taught a second subject (other than math)
  - 53% Taught two additional subjects (other than math)
  - 42.8% Taught natural science and math only
- Schools of Employment
  - 39% Higher track (*Gymnasium*)
  - 16.4% Extensive general education lower track (*Realschule*)
  - 10.8% Basic general education lower track (*Hauptschule*)
  - 25.4% Combination of tracks (*Mittelschule, Gesamtschule*)
  - 8.4% Other (e.g., private or vocational)

### Analysis

- Structural equation modeling (SEM) was used to confirm the proposed factor structure of teacher self-regulation (RQ1). Once this was accomplished a full SEM model was then specified in order to determine what role self-regulation played in predicting both emotional exhaustion and job satisfaction (RQ2). The authors also tested whether or not self-regulation was fully or partially mediated by emotional exhaustion (RQ2). Finally, the authors tested whether there were gender difference or differences across school types (RQ3). They did this by holding variables "constant"

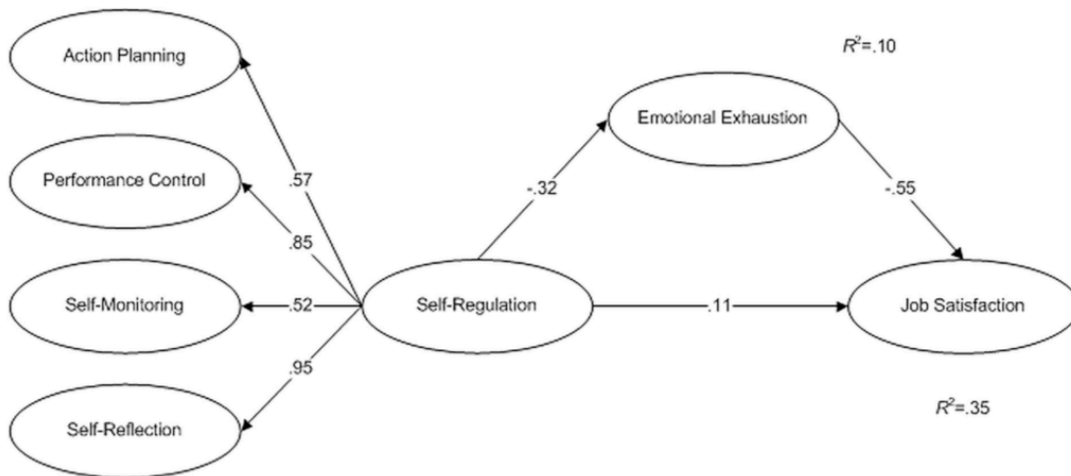
in one model with respect to groups (e.g., gender), then tested to see if the results of the constant (constrained) model were different than the "full" (non-constrained) model.

## Findings

- RQ1: Second-order factor model was a better fit. This means that self-regulation is made up of smaller factors (the ovals on the left side).
- RQ2: Self-regulation was only partially mediated by emotional exhaustion. As expected, teacher self-regulation negatively predicted emotional exhaustion (i.e., the more self-regulated, the less emotionally exhausted), which in turn negatively predicted job satisfaction (i.e., the more emotionally exhausted, the less job satisfaction). Self-regulation positively predicted job satisfaction (see Figure 1).
- RQ3: The model below fits men and women equally, and school track does not seem to make a difference either.

## Discussion

The authors suggest that their findings support the notion of giving beginning teachers more direct guidance on how to implement self-regulated learning strategies: "On the one hand, creating more routine when working on tasks outside school by applying cognitive self-regulation strategies, can help to reduce the perceived workload and the associated emotional exhaustion; on the other hand, it may free up teachers' attention for other aspects of their highly complex work, which should not and 'can't be routinized because they are contingent on student responses and the particular objectives sought at a given moment' (Hammerness et al., 2005, p. 359)" (p. 66).



**Fig. 1.** Standardized estimates for the structural equation model of self-regulation and its associations with emotional exhaustion and job satisfaction. Manifest indicators and errors omitted; all direct paths in the model are statistically significant ( $p < .05$ ); the indirect effect of self-regulation on job satisfaction is statistically significant ( $\beta = .18, p < .05$ ).

*Taken from page 63. All coefficients can be read the same way correlation coefficients are; the stronger the relationship, the closer the coefficient is to 1.*

Mattern & Bauer questions for discussion:

1. Do we know whether SR (self-regulated learning) is built into the TE curriculum?
2. If not known, would it be advisable to find out?
3. Assuming evidence that students leave without adequate SR knowledge, then how to remediate?

**de Vries, S., Jansen, E.P.W.A., Helms-Lorenz, M. and W.J.C.M. van de Grift (2014). Student teachers' beliefs about learning and teaching and their participation in career-long learning activities. *Journal of Education for Teaching*, 40(4): 344-358.**

*Abstract:*

*Career-long teacher learning is essential to the teaching profession because it is strongly connected with teacher quality and practices. Student teachers in the first stage of their career-long learning continuum, however, vary in the extent to which they participate in learning activities. This study explores the relationship between beliefs about learning and teaching and participation in learning activities among student teachers, in a school-based teacher education setting for secondary education in the Netherlands. The results indicate that student teachers vary in their beliefs. Structural equation modelling analysis shows that pupil-oriented beliefs are positively related to self-reported participation in learning activities; no relationship emerges between subject matter-oriented beliefs and learning. A cluster analysis reveals two distinct belief profiles, and the findings confirm the relationship to participation in learning activities. Implications for teacher education programmes intended to enhance the chances that their student teachers will become pupil-oriented, career-long learning professionals are discussed.*

Summary prepared by Stephen Aguilar and Stuart Karabenick.

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## **Background**

The authors point to the importance of knowing teachers' beliefs about learning and teaching early on in their teaching career. They hypothesize that differences in how teachers perceive their own training and teaching with respect to students will influence how they themselves are willing to be trained and taught.

To facilitate this study, the authors make a distinction between "subject matter" (i.e., domain specific knowledge) approach vs. a pupil centered ("constructivist") approach, where the former refers to learning content, and the latter refers to a more constructivist orientation. The authors tested whether or not dominance in one vs. another predicted participating in (their) learning activities.

This study took place in the Netherlands, where teacher education is based on university-school partnerships. Student teachers go to host schools and are paired with mentor teachers. The authors also identify **developing/updating knowledge and skills, reflection, and collaboration** as three key skills that are "integral to school-based teacher education" (p. 347) (See Figure 1). The authors do not specifically point to literature that identified these as key beliefs, and instead seem to draw inspiration from other work, such as LaBoskey's (1993) work on "inquiry orientations," (p. 347) and Oosterheert, Vermunt, & Denessen's (2002) work on "orientations" such as "survival, closed reproduction, closed meaning, and open meaning," (p. 347). These seem to map onto a non-constructivist/constructivist spectrum.

## **Aims**

The authors state that: "[in] this study, we strive to understand what student teachers believe and which belief orientations facilitate or impede their participation in activities that encourage career-long learning. A few studies provide some indications" (p. 349). Stated differently, their aim is to see if there are any relationships between teachers' beliefs, and what activities teachers' are subsequently willing to take part during training activities.

## **Research Questions & Design**

From pages 437-8:



- (1) "What beliefs do secondary student teachers actually report about learning and teaching?"
- (2) Is there a positive relationship between a pupil orientation and student teachers' participation in career-long learning activities (H1), and a negative relationship for a subject matter orientation (H2)?
- (3) What patterns are discernible in student teachers' beliefs about learning and teaching?
- (4) Do belief profiles confirm the relationship between belief orientations and student teachers' participation in the activities important for career-long learning (H3)?"

### Methods

Like the previous study, de Vries et al., use SEM to model the relationships they believe are key for student teachers' learning and what training activities they are willing to take part in. To answer RQ3 they used cluster analysis to group teachers into different belief "profiles." Cluster analysis can refer to various techniques, but they all aim to group similar cases together into "clusters" or groups.

### Sample

- Data are part of national longitudinal research project
  - Purpose is to compare teacher preparation routes to compare effectiveness and retention
- 2012-2013 School year
- $N = 412$  student teachers
  - 110 completed online survey
  - 62 (56%) secondary school teachers
  - 61% women
  - $M_{age} = 24.5$  years;  $SD = 1.9$ ; range = 20 - 29

### Instruments

The authors used an online questionnaire to measure 5 constructs. Reliabilities ranged from 0.65 to 0.88.

Beliefs about learning: measured on a 1-6 Likert-type scale with "totally not applicable" and "fully applicable" serving as anchors

1. Pupil oriented beliefs: e.g., "Pupils develop their skills and competencies."
2. Subject matter oriented beliefs: e.g., " There is order and discipline during the lesson."

Learning activities: measured on a 1-4 Likert-type scale with "never" and "very often" serving as anchors.

3. Updating: e.g., " I read professional journals."
4. Reflection: e.g., " I discuss events in my teaching with others to learn from them."
5. Collaboration: e.g., " I talk about teaching problems with colleagues."

### Analysis

- RQ1: Computed mean scores of student teachers' beliefs about learning, as well as SD and ranges.
- RQ2: Computed  $M$ ,  $SD$ , and for learning activities, correlations, and used the correlation matrix to specify an SEM model.
- RQ3: Cluster analysis; created subgroups of homogeneous cases using above scores, used independent sample t-test to detect differences in belief orientations across profiles
- RQ4: "we conducted independent- sample t-tests of the differences across the three learning activities that determined the belief profiles." (p. 349)

## Findings

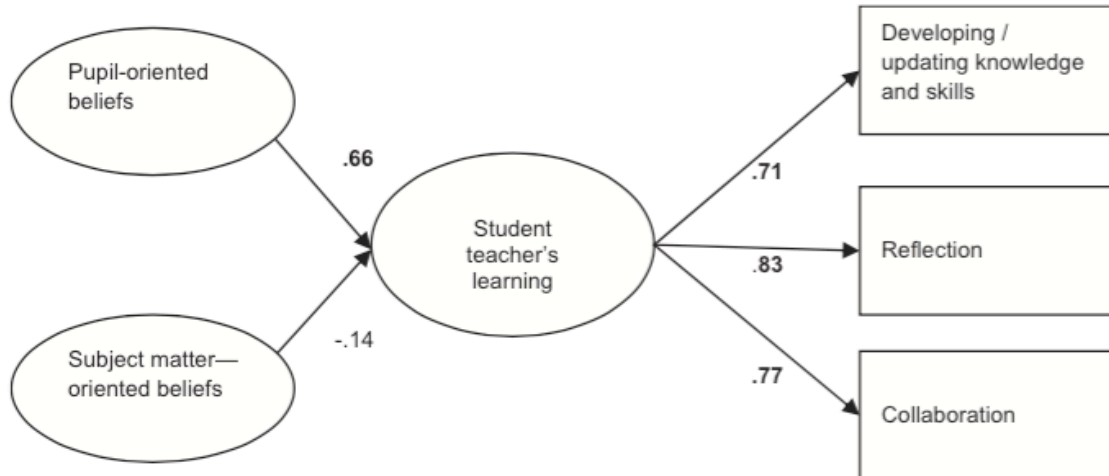
- *Beliefs about learning and teaching* (RQ1): Student teachers hold equally strong subject matter ( $M = .84$ ) and pupil-centered beliefs ( $M = .83$ ).
  - Note: because means are standardized coefficients it is somewhat difficult to determine how teachers actually answered questions. It is not typical to standardize scores on questionnaires in this way when the scales are the same (In this case, a 6pt Likert-type scale).
- *Beliefs and learning* (RQ2): SEM analysis indicated a positive relationship between pupil-oriented beliefs and student teachers' learning, as well as a negative relationship between subject matter-oriented beliefs and student teachers' learning.
  - Note: It is uncommon to specify an SEM model with so few cases ( $N$  appears to be 62).
- *Belief Profiles* (RQ3): Two profiles/clusters were created; one with pupil-beliefs slightly dominant, and another with subject matter beliefs slightly dominant:
  - The authors seem to have used two methods. The first "Ward's method" aims to minimize the amount of variance within each group. The second method is "k-means" clustering, which aims to create groups where each observation's mean is "close" to the mean of the group.
  - "The first cluster (Cluster 1 = 39%) was characterised by relatively high pupil and subject matter orientations (between 'applicable' and 'fully applicable' on the Likert scale), with a slightly non-significant dominance of pupil orientation. We refer to this cluster as the 'pupil-dominant' profile. The second cluster (Cluster 2 = 61%) was characterised by somewhat lower pupil and subject matter orientations (between 'more likely to be applicable than not' and 'applicable' on the Likert scale), with a slightly non-significant dominance of subject matter orientation. We refer to this cluster as the 'subject-dominant' profile." (p. 351).
  - Table 4 taken from p. 352 (below) represents the final groupings by cluster. Note the authors again choose to standardize values, which makes it difficult to contextualize teachers' answers to the survey questions. Also note how close the two groups seem to be to one another; Cluster 1, labeled pupil dominant, has a standardized mean of .92 for pupil-oriented beliefs, while Cluster 2 (subject-dominant) has a standardized mean of .78. While the authors show that these differences are statistically significant, it is difficult to ascertain what this means in context.

Table 4. Means for the two belief orientations and the three learning activities per cluster ( $N = 62$ ).

	Cluster 1: pupil-dominant profile ( $n = 24$ )	Cluster 2: subject-dominant profile ( $n = 38$ )
Subject matter-oriented beliefs	0.90	0.80
Pupil-oriented beliefs	0.92	0.78
<i>Learning activities</i>		
Developmental activities	0.65	0.54
Reflective activities	0.77	0.67
Collaborative activities	0.70	0.62



- *Belief Profiles and Learning Activities* (RQ4): The three measured activities differed across belief profiles ( $p < .01$ ).
  - "When student teachers have a higher pupil orientation together with strong subject matter-oriented beliefs, they participate more in activities important for career-long learning" (pp. 351-2).



Taken from page 361. All coefficients can be read the same way correlation coefficients are; the stronger the relationship, the closer the coefficient is to 1.

## Discussion

Teachers in the study seemed to have the same subject matter beliefs, but had slight difference in their pupil-centered beliefs. The authors also found that "the more pupil-oriented student teachers are, the more they participate in learning activities. [Yet] no significant relationship exists between subject matter orientation and learning" (p. 353). They propose the following principles (p. 354):

"(1) Student teachers should acknowledge that good knowledge of the subject matter is important but that pupil orientation is crucial. They should become acquainted with theories and research findings in the field and explicitly engage in reflection on their own pre-conceptions through different strategies and techniques: for example, changing images by exploring their own images and metaphors for teaching, confronting contradictions and investigating cases (Morine-Dershimer and Corrigan 1997; Pajares 1993).

(2) Student teachers should be taught explicitly how to learn meaningful lessons through practice, by linking their own beliefs, practices and theory, and how to learn from both challenges and successes.

(3) Teacher educators should model the pupil-oriented thinking they aim to encourage.

(4) The work context at practice schools should model best practices in pupil orientation."



**de Vries et al. questions for discussion:**

1. How do the pupil-oriented and subject matter oriented beliefs map onto how you view teacher education?
2. The authors outlined three key activities teachers can take part in (below). Are there any activities you think they missed? If so, what?
  - a. **Developing activities**, which are defined as those that lead to further professional development (e.g., reading recent research),
  - b. **Reflective activities**, which are defined as activities focused on reflecting on ones practice (e.g., analyzing videos of one's instruction, asking colleagues for feedback),
  - c. **Collaborative activities**, which are defined as activities focused on collaborating with one's colleges in various ways (e.g., talking about teaching issues, using colleagues teaching materials).
3. What do you make of the various methodologies used by the authors to warrant their claims? How do they compare to research your familiar with?