The Nature of Pedagogic Teacher-student Interactions: A Phenomenographic Study

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Abstract

Globally, teaching has become more complex and more challenging over recent years, with new and increased demands being placed on teachers by students, their families, governments and wider society. Teachers work with more diverse communities in times characterised by volatility, uncertainty and moral ambiguity. Societal, political, economic and cultural shifts have transformed the contexts in which teachers work and have redefined the ways in which teachers interact with students. This qualitative study uses phenomenographic methods to explore the nature of pedagogic teacher-student interactions. The data analysis reveals five qualitatively different ways in which teachers experience pedagogic engagements with students. The resultant categories of description ranged from information providing, with teachers viewed as transmitters of a body of knowledge through to mentoring in which teachers were perceived as significant others in the lives of students with their influence extending beyond the walls of the classroom and beyond the years of schooling. The paper concludes by arguing that if teachers are to prepare students for the challenges and opportunities in changing times, teacher education programs need to consider ways to facilitate the development of mentoring capacities in new teachers.

Background

Increased demands have been placed on schools and on teachers in contemporary times. Schools and teachers are expected to deal effectively with a wide array of languages and student backgrounds, to be sensitive to culture and gender issues, to promote tolerance and social cohesion, to respond effectively to disadvantaged students and students with learning or behavioural problems, to use new technologies, and to keep pace with rapidly developing fields of knowledge and approaches to student assessment (Organisation for Economic Co-operation and Development [OECD], 2005). In summary, teachers work with more diverse communities (Hargreaves & Fullan, 2000) in times characterised by change and uncertainty and in societies in which social

prosperity and economic success are premised upon skilled and knowledgeable citizens (Lovat & MacKenzie, 2003).

Teachers provide a constant in students' lives that are increasingly characterised by profound and rapid changes often coupled with mobility, dislocation, diversity and global threats of terror (Carrington, 2006). While many students form significant relationships with at least one unrelated adult, the unrelated adults they name as influential are teachers (Darling, Hamilton, & Shaver, 2003). The extended contact that teachers have with young people situate them ideally to act as role models and 'significant others' in their lives and to especially help those who find life's circumstances stressful and a threat to their well-being" (Ostwald, Johnson, & Howard, 2003, p. 62).

Significant to this study, the nature of teacher-student relationships and the quality of pedagogic practices (Lingard, Martino, Mills, & Bahr, 2002) are key factors that impact on students' engagement with schooling. Individual teachers contribute more significantly to changes in student achievement than other factors, such as school influences (Lingard, Mills, & Hayes, 2000; Rowe, 2000; Rowe & Rowe, 2000). In addition to improved academic outcomes (Fraser & Wahlberg, 2005), positive teacher-student relationships have been linked to improved social outcomes for students (OECD, 2005). Further, it may be argued that the establishment of warm, positive, healthy teacher-student relationships may be more crucial in these contemporary times of volatility, uncertainty and complexity. Thus, the exploration of the nature of teacher-student relationships in this research, is timely.

Methodology

Phenomenography can be traced back to the 1970s where it emerged from educational research carried out in Sweden (Ashworth & Lucas, 1998). While the term first appeared in research texts in 1954 in an article about phenomenology and existential analysis by Sonneman (Hasselgren & Beach, 1997), the term *phenomenography* has been attributed to Marton and his colleagues in describing a specific qualitative research approach (Marton & Pang, 1999; Svensson, 1997).

Phenomenography is defined as "an empirically based approach that aims to identify qualitatively different ways in which different people experience, conceptualise, perceive, and understand various kinds of phenomena" (Marton, 1988, p. 53). As a research methodology, phenomenography takes a "second-order approach" (Marton & Pang, 1999) or a "from-the-inside" approach (Richardson, 1999), in that it focuses on experiences as perceived by the participants (Marton, 1988; Ashworth & Lucas, 1998). Phenomenographic studies focus on describing and understanding the range

of experiences of groups rather than on describing and understanding individual experiences (Marton, 1986; Harris, 2008). In this study, phenomenography is used to reveal the variation in the ways in which teachers experience pedagogic relationships with students.

In phenomenographic studies, findings are described as an outcome space. The outcome space provides a map of variations and is represented as a visual or diagrammatic representation of the categories of description and the relationships between them (Marton, 1988). The relationships between the categories of description assist the researcher in understanding the participants' experience of the phenomenon. Categories of description reveal the different ways in which the phenomenon under investigation (Marton & Booth, 1997), in this case, pedagogic teacher-student interactions, is experienced. As such, the categories describe key aspects of the phenomenon and attempt to capture the character of the conceptions or experiences of the research participants (Richardson, 1999). The categories of description are delimited from each other through differences in key common themes known as dimensions of variation. These dimensions of variation underscore aspects of similarity as well as difference between the categories (Akerlind, 2002).

Data Collection and Analysis

Twenty teachers from the same lower secondary school in Brisbane, Australia were chosen to be the participants in this study. The number of teacher participants was decided on Sandberg's (2000) findings that variation reaches saturation after twenty. This sample size allows variation to be revealed while also limiting the large volume of data that needs to be analysed (Trigwell, 2000).

As phenomenographic studies seek to reveal variations in which a phenomenon is experienced (Bowden, 2000; Marton, 1988; Marton & Booth, 1997) purposive sampling was used to select the participants in an attempt to maximise as much as possible a range of perspectives of pedagogic interactions experienced by the group of teachers. The teachers selected to participate in the study were chosen across a range of criteria that included: subject areas and year levels taught, gender, years of teaching experience, and the amount of contact time with students.

Semi-structured interviews are the primary source of data collection in this study. Each teacher was interviewed individually for approximately 45 minutes using the same set of open-ended questions with other unprepared questions or prompts emerging during the course of the interviews. Questions or prompts included "How do you connect with your students in the classroom?", "Tell me about a time when you connected with a student or a group of students" and "How did these connections with students influence

classroom learning?" Open-ended questions aimed to encourage interviewees to reveal individual experiences of the phenomenon rather than be influenced by researcher perceptions that could occur from closed questions (Marton, 1986).

The interviews were audio-recorded and the transcripts were analysed using an iterative process. During this process, the complete set of transcripts were read and reread repeatedly before any data were coded. Statements relating to teaching, learning and teacher-student interactions in the transcribed data were considered to be significant. These statements were highlighted in the original transcripts and then collated. To find sources of agreement and variation within the data, the selected statements were studied individually as well as alongside statements from the other interviews (Booth, 1997; Prosser, 2000). These statements were compared and contrasted and the similarities and differences that emerged provided the basis for the resultant set of categories of description.

Results and Discussion

The data from this study revealed five qualitatively different ways in which teachers experience their pedagogic interactions with students. The categories of description that characterize the conceptions of pedagogic interactions are:

- Category 1: Information providing
- Category 2: Instructing
- Category 3: Facilitating
- Category 4: Guided participation
- Category 5: Mentoring

The description categories exist as a continuum that increases in complexity from information providing to mentoring. Some categories may contain aspects of previous categories but extend meaning beyond those described in less complex categories.

Information providing

In the information providing category, the key focus of teachers' pedagogic interactions with students is on delivering a body of knowledge in order for students to reproduce this knowledge in examinations. Teachers use direct instruction as the key pedagogic strategy with the main flow of classroom interactions from teacher to student rather than the reverse. In this category, the nature of teacher-student interactions is impersonal with the main focus on teaching a subject through content delivery rather than interacting with students. Teachers perceive that if knowledge is delivered, then learning will occur spontaneously. A typical response from a teacher is:

> You do have to get through a certain amount of work within a set time …I've got to get the kids through the exam.
> (Interview C)

Instructing

The second category of pedagogic interactions is instructing. The key focus in this category is on instructing students in the acquisition and application of skills. Skills include discipline-based activities, such as graphing and cooking, and learning strategies, such as writing checklists. Skill acquisition and practice provide greater opportunities for teachers and students to connect pedagogically as the teacher moves from the isolation of the teacher's desk at the front of the room to the classroom monitoring student work and engagement. In the instructing category, teachers use a greater range of activities rather than simply copying down notes from the board. However, these activities are teacher-directed and are used to reinforce skills or strategies:

> I start with what they know and then look at the strategies I can use then to get to that endpoint by modeling stuff like in English because there is a lot of modeling which is important.
> (Interview L)

Facilitating

In the third category of description, facilitating, teachers perceive the nature of their pedagogic interactions with students as facilitating student learning. Teachers focus on teaching students rather than on teaching a subject or subject-related skills. This category, unlike the previous ones described thus far, focuses also on a depth of student understanding with the teacher perceived as facilitating understanding by engaging with students. In teachers' descriptions, students are seen as active participants in the learning process and two-way interactions between teacher and students are seen as important to the learning process:

> The introduction to the unit might just be a discussion where they're allowed to say what they think about these issues and get a really good idea of how, what they understand about the world and then we'll look at research strategies and I'll go along and help them find what they're looking for. It's pretty well they're doing the work and I'm facilitating.
> (Interview O)

The words *conversation* and *discussion* are used frequently when teachers describe their interactions with students in the facilitating category. Teachers acknowledge the importance of peer interactions also in facilitating learning:

> They'd be having discussions with each other and with me and I'd be going around talking to them. So, you'd have animated discussions, you wouldn't necessarily have dead quiet.
> (Interview L)

Guided participation

Guided participation is the first category in which teachers talk about helping students to take responsibility for their own learning. In this category, teachers talk about providing students with opportunities to initiate learning experiences rather than the teacher providing the information or constructing the classroom activities. There is a definite shift from teacher-centred work to student-directed activities that delimits this category from the previous categories discussed so far. There is a further focus also on the quality and depth of student learning:

> I encourage that reflection … how did you do that, and writing and talking about their writing, how did you do that? Tell me how you did that? That metacognition, very important, getting them to constantly think how did I do that?
> (Interview G)

Mentoring

Mentoring is the most complex category of pedagogic interactions to emerge from the data. In this category, the focus is on the partnership between teacher and student and the quality and duration of that partnership. These teacher-student partnerships are viewed as long-term relationships, extending well beyond the years of schooling. Teachers perceive themselves as partners in learning and as significant others in the lives of their students:

> I think they see you as this person who does go out of their way to spend time with them and you also relate to their parents when they're out there and so it creates an environment where, hopefully … mum, dad, teacher and student are all working together in and outside the school.
> (Interview M)

Unique to the mentoring category, teachers speak of their passion for teaching and learning and of sharing this passion with students. This passion extends beyond learning to enthusiasm for life generally. Teachers share some aspects of their lives with students leading to a sense of vulnerability:

> Passion is enthusiasm, and it becomes almost embarrassing enthusiasm where you put your personality on the line just so you can get your passion across.
> (Interview S).

Metcalfe and Game (2008) suggest that by revealing their vulnerabilities, teachers appear to be more "real with students" (p. 105) and become more accepted by, and endearing to, students.

In the mentoring conception, teachers stated that close interpersonal interactions with students led also to the development of mutual respect between teacher and students:

> I can speak about my own life and I do my own work in the art room and the boys see that and they'll ask me what it's about and that then gives me a chance to ask them about the same things and I guess my relationship is like a relationship of passion because art is a passion that the boys see me living out and they know I'm enthusiastic about it and so there's a kind of respect for art that they show towards me, just out of respect of me. (Interview B)

Dimensions of Variation between Categories

The categories of description of pedagogic interactions were delimited from each other through key themes or dimensions of variations that emerged from the data. These dimensions are summarized in Table 1 and are discussed in this section.

Discussion of Findings

Perceived influence on students

A key variation between the categories of description of pedagogic interactions is the perceived influence on students by teachers. In both the information providing and the instructing categories, the perceived influence of teachers on students is restricted and does not appear to extend beyond the classroom. The main goal of learning in these categories is on instrumental learning: that is learning not for its own sake but to achieve some extrinsic goal (Lawton & Gordon, 1993). The goals are usually related to academic success measured by achievement in examinations. In the information providing and the instructing categories, teachers perceive themselves as experts who provide students, the novices, with knowledge and skills that students reproduce later to meet assessment requirements. In these two categories, teaching is seen as an emotionally distant activity with little recognition of the role of positive teacher-student relationships in facilitating student engagement or learning. Ottewill (2003) suggests that teaching and learning should be emotionally charged activities in which it is appropriate to engage students by "appealing to their hearts and heads" (p.194). Hargreaves (2000) argues also that strong emotional bonds and understanding between teachers and students are the basis for high quality learning. However, it is

Dimensions of Variation	Categories of Description				
	1 **Information Providing**	2 **Instructing**	3 **Facilitating**	4 **Guided Participation**	5 **Mentoring**
Perceived influence on student	Academic performance	Academic performance	Academic performance and individual development	Academic performance and individual development	Academic and individual development and lifelong learning
Student motivation	—	Extrinsic	Intrinsic	Intrinsic	Intrinsic
Classroom atmosphere/ interactions	Impersonal/ emotionally distant Few teacher-student interactions	Impersonal Mainly one-way interactions from teacher to students	Sees student as a person/learner Two-way interactions between teacher and students	Warm, supportive, mutual respect Two-way interactions between teacher and students	Warm, supportive, mutual respect and commitment Extensive two-way interactions between and among teacher and students
Repertoire of pedagogic practices	Direct instruction	Direct instruction and skill practice	Variety of pedagogic practices with focus on group activities	Variety of pedagogic practices with some student negotiation of learning experiences	Variety of pedagogic practices with student negotiation of learning experiences
Perceived role of teacher/ student	Teacher as expert/student as novice	Teacher as expert/student as novice	Teacher recognises prior knowledge of students	Teacher as more experienced equal	Teacher as more experienced equal in long-term partnership with student
Focus of teaching and learning	Quantity of knowledge transmitted	Quantity and quality of skill acquisition	Quality of teacher-student relationship	Quality of teacher-individual student relationship	Quality of teacher-student partnership

Table 1: Dimensions of Variation Between Categories of Description

not until the facilitating category of pedagogic interactions that teacher-student relationships are acknowledged as integral to the learning process and teachers perceive that their influence on students extends beyond academic achievement.

Guided participation is delimited from previous categories by acknowledgement of teacher caring and trust. In guided participation, the focus is on extending and challenging students, socially, emotionally and academically and encouraging students through participation in forms of appropriate risk-taking. Earlier studies of teacher-student relationships (Wentzel, 1997, 2002) suggest that students' perceptions of teacher "pedagogic caring" are related to the pursuit of social and academic goals. Pedagogic caring (Wentzel, 1997) is characterized by democratic interactions with students, high expectations of behaviour that recognize and cater for students' individual differences, and nurturance and approval. Teachers also demonstrate they care by using a range of pedagogic practices to provide lessons that are creative and interesting (Wentzel, 1997). In the guided participation conception of pedagogic interactions, teachers indicated a high level of pedagogic caring evidenced through these behaviours and practices.

In the mentoring category, teachers perceive themselves as significant others who play integral roles in the ongoing academic and social development of students, both inside and beyond the classroom. As such, the teacher takes on the role of a mentor as defined by Bronfenbrenner (personal communication, cited in Darling et al., 2003, p. 358). A mentor is described as:

> an older, more experienced person who seeks to further the development of character and competence in a younger person by guiding the latter in acquiring mastery of progressively more complex skills and tasks in which the mentor is already proficient. The guidance is accomplished through demonstration, instruction, challenge, and encouragement on a more or less regular basis over a period of time. In the course of this process, the mentor and the young person develop a special bond of mutual commitment. In addition, the young person's relationship to the mentor takes on an emotional character of respect, loyalty and identification.

Poulson and Fouts (2001) use the term *affect attunement* to describe a sense of emotional connectedness and commitment between two people. Affect attunement in the classroom may be conceptualized as the ability of the teacher to emotionally connect with students and to be at one with them. It is argued that, through their mutual focus and respect, affect attunement is integral to the mentoring conception of pedagogic interactions.

Student motivation

In the information providing category, success in examinations is perceived as a key purpose for teaching and motivation is not discussed explicitly. It is only in the instructing category that teachers start to discuss motivation. In this category, teachers describe the use of extrinsic means such as rewards and fear of punishment to motivate students. Motivation becomes more intrinsic in more complex categories. In the mentoring category, teachers exhibit a passion for their subject area and describe how the deep love of their subject disciplines leads to a more intrinsic motivaton. Ottewill (2003) further suggests that a deep love of a subject may be expressed by a desire to share this passion with others. Teachers describe similar characteristics in the mentoring category of pedagogic interactions.

Classroom atmosphere/interactions

Supportive classroom atmospheres are characterized by mutual respect and support between teachers and students, and among students. However, earlier related phenomenographic studies of teaching and learning (Booth, 1997; Boulton-Lewis, Marton, Lewis & Wilss, 2001; Samuelowicz, 1999) have not acknowledged the significance of the classroom climate to teaching and learning processes. Further, supportive classroom environments facilitate high quality learning (Lingard et al., 2001). In this study of pedagogic teacher-student interactions, teachers spoke about the importance of these factors in contributing to student learning. Teachers' perceptions of classroom atmosphere and authority relations change across the categories of description from impersonal and authoritarian to warm, supportive and authoritative. In the mentoring conception, teachers perceive themselves as more experienced equals who consciously attempt to build an atmosphere of mutual respect and support within the classroom.

Repertoire of pedagogic practices

Teachers' repertoires of pedagogic practices become more diverse across the categories of description. Direct instruction is the key pedagogic practice in the least complex conception through to a range of practices that include group work, discussion, and student-initiated learning activities in the most complex conception. The information providing conception has many commonalities with the factory model of schooling described by Rogoff, Turkanis and Bartlett (2001). In both cases, the focus is on delivering a pre-specified body of knowledge through direct instruction with the emphasis on memorization rather than understanding. While direct instruction has a place in the classroom, it provides few opportunities for substantive conversations to occur between teacher and students (Killen, 2007). Substantive conversations are characterized by reciprocal interactions among students and between teachers and students (Education Queensland, 2002). The dialogue between that occurs within substantive conversations facilitates understanding and leads to improved learning

outcomes. Newman et al. (1996) and more recently Lingard et al., (2001) argue that substantive conversations between teachers and students are necessary to high quality learning. It is these substantive conversations that facilitate productive teacher-student relationships and vice-versa.

Perceived roles of teachers and students

The perceived roles of teachers and students are articulated in a number of phenomenographic studies related to teaching and learning (Prosser, Trigwell, & Taylor, 1994; Samuelowicz, 1999). In her study of conceptualizing teaching, Samuelowicz describes teachers as playing dominant roles in the transmission of information in her least complex categories and remaining dominant in encouraging and helping students to assume active roles in their learning in her most complex categories. In the information providing and instructing conceptions of pedagogic interactions, teachers adopt a dominant position in the teaching and learning processes. The point of departure between the study by Samuelowicz and this study is evidenced in moving towards the more complex conceptions. In the most complex categories in this study, teachers do not perceive themselves as being dominant per se, but describe themselves as more experienced equals who negotiate learning experiences in partnership with students whereas in the study by Samuelowicz, academics create or "orchestrate situations in which students are encouraged to learn" (Samuelowicz, 1999, p. ii). In the mentoring category of pedagogic interactions, the relationship between teacher and students is near-peer (Lave, 1991) as teacher and students work together with a shared commitment to the social, emotional and academic development of students on an ongoing basis.

Focus of teaching and learning

Teachers in the information providing category describe transmitting a quantitative amount of information to students. In this category as in the factory model of schooling, the "learner has little to do besides allowing themselves to be filled with the knowledge provided by teachers and texts" (Rogoff et al., 2001, p. 6). The facilitating category is a turning point as it marks a change in focus of teaching and learning from quantitative to qualitative and also from a focus on content or skills to a focus on students. In the most complex categories, teaching and learning are not restricted to the classroom. Teachers speak also of the quality and duration of their relationships with students and their families and also of an intrinsic love of learning. In mentoring, teachers instill a love of learning in students and learning is viewed as part of an ongoing lifelong journey rather than merely being a focus during the years of schooling.

This view of learning as an intrinsic part of life emerged also in Harris's (2008) study into teachers' conceptions of student engagement in learning. In her most complex

category, owning, teachers viewed students as intrinsically motivated and valuing learning to the point where a love of learning permeated every aspect of students' lives. This enthusiasm for learning mirrors that expressed in the mentoring category of this current study.

Conclusion

This current study has revealed five qualitatively different ways in which teachers experience pedagogic interactions. The most complex category to emerge is mentoring in which teachers perceive themselves as significant others in the lives of students with their influences extending beyond the classroom and beyond the years of schooling. The powerful potential of mentoring relationships between teachers and students has been identified in earlier studies (Trepanier-Street, 2004/5). However, this notion of mentoring is not a recent concept. The term originated as early as 800BC from Homer's Odyssey in Ancient Greek mythology. The original Mentor had the responsibility of caring for and guiding Odysseus' son, Telemachus. Mentor acted as a "role model, guide, facilitator, and supportive protector for Telemachus" (DeBolt, 1992, p. 36). In the mentoring conception of pedagogic teacher-student interactions, it appears that teacher-mentors take on similar responsibilities with students.

It has emerged from this study also that teacher-mentors are passionate advocates for their areas of expertise and for teaching and learning generally. Fried (2001) argues that passion is not a personality trait that some people possess and others lack, but something "discoverable, teachable, and reproducible" (p. 6). The findings of this study provide food for thought in how we might foster these qualities in teachers. Certainly, the ways in which teacher-mentors engage and inspire students through their own zest for teaching and learning requires further investigation.

References

Akerlind, G. S. (2002, November). *Academic's awareness of their own growth and development: Five dimensions of variation*. Paper presented at the Symposium on Current Issues in Phenomenography, Canberra.

Ashworth, P., & Lucas, U. (1998). What is the "World" of phenomenography? *Scandinavian Journal of Educational Research, 42*(4), 415-431.

Booth, S. (1997). On phenomenography, learning and teaching. *Higher Education Research and Development, 16*(2), 135-158.

Boulton-Lewis, G. M., Marton, F., Lewis, D. C., & Wilss, L. A. (2001). A longitudinal study of learning for a group of indigenous Australian university students: Dissonant conceptions and strategies. *Higher Education, 47*, 91-112.

Bowden, J. A. (2000). The nature of phenomenographic research. In J. A. Bowden & E. Walsh (Eds.), *Phenomenography*. Melbourne: RMIT University Press.

Carrington, V. (2006). *Rethinking Middle years: Early adolescents, schooling and digital culture*. Crows Nest, NSW: Allen & Unwin.

Darling, N., Hamilton, S. F., & Shaver, K. H. (2003). Relationships outside the family: Unrelated adults. In G. R. Adams & M. D. Berzonsky (Eds.), *Blackwell handbook of adolescence* (pp. 349-370). Malden, MA: Blackwell Publishing Ltd.

DeBolt, G. P. (1992). *Teacher induction and mentoring: School-based collaborative programs*. Albany, NY: State University of New York.

Education Queensland. (2002). *A guide to productive pedagogies: Classroom reflection manual*. Brisbane, Australia: Queensland Government.

Fraser. B. J., & Wahlberg, H. J. (2005). Research on teacher-student relationships and learning environments: Context, retrospect and prospect. *International Journal of Educational Research, 43*(1-2), 102-109.

Fried, R. J. (2001). *The passionate teacher: A practical guide* (2nd ed.). Boston, MA: Beacon Press.

Hargreaves, A. (2000). Mixed emotions: Teachers' perceptions of their interactions with students. *Teaching and Teacher Education, 16*(8), 811-826.

Hargreaves, A., & Fullan, M. (2000). Mentoring in the new millennium. *Theory into Practice, 39*(1), 50-57.

Harris, L. R. (2008). A phenomenographic investigation of teacher conceptions of student engagement in learning. *The Australian Educational Researcher 35*(1), 57-79.

Hasselgren, B., & Beach, D. (1997). Phenomenography: A "good for nothing brother" of phenomenology? Outline of an analysis. *Higher Education Research and Development, 16*(2), 191-202.

Killen, R. (2007). *Effective teaching strategies: Lessons from research and practice* (4th Ed.). South Melbourne, VIC.: Thomson Social Science Press.

Lave, J. (1991). Situated learning in communities of practice. In L. B. Resnick, J. M. Levine & S. D. Teasley (Eds.), *Perspectives on socially shared cognition* (pp. 63-82). Washington, DC: American Psychological Association.

Lawton, D., & Gordon, P. (1993). *Dictionary of education*. London: Hodder and Stoughton.

Lingard, R., Ladwig, J., Luke, A., Mills, M., Hayes, D., & Gore, J. (2001). *The Queensland school reform longitudinal study: Final report* (Research report). Brisbane: Education Queensland.

Lingard, R., Martino, W., Mills, M., & Bahr, M. (2002). *Addressing the educational needs of boys: Strategies for schools and teachers* (Research report). Canberra: Department of Science, Education and Training.

Lingard, R., Mills, M., & Hayes, D. (2000). Teachers, school reform and social justice: Challenging research and practice. *Australian Educational Researcher, 27*(3), 99-115.

Lovat, T. J., & MacKenzie, C. (2003). *The role of the 'teacher': Coming of age?* [Discussion paper]. Bundoora, Australia: The Australian Council of Deans of Education Incorporated.

Marton, F. (1986). Phenomenography: A research approach to investigating different understandings of reality. *Journal of Thought, 21*(3), 28-49.

Marton, F. (1988). Phenomenography: Exploring different conceptions of reality. In D. Fetterman (Ed.), *Qualitative approaches to evaluation in education: The silent revolution* (pp. 176-208). NY: Praeger.

Marton, F., & Booth, S. (1997). *Learning and awareness.* Mahwah, NJ: Lawrence Erlbaum Associates Inc.

Marton, F., & Pang, M. F. (1999, August). *Two faces of variation.* Paper presented at the 8th European conference for learning and instruction, Goteborg University, Goteborg, Sweden.

Metcalfe, A. & Game, A. (2008). The teacher's enthusiasm. *Australian Educational Researcher, 33*(3), 91-106.

Newman, F. J., & Associates. (1996). *Authentic achievement: Restructuring schools for intellectual quality.* San Francisco: Jossey-Bass.

Organisation for Economic Co-operation and Development (OECD). (2005). *Teachers matter: Attracting, developing and retaining effective teachers.* Paris: Author.

Osterman, K. F. (2000). Students' need for belonging in the school community. *Review of Educational Research, 70*(3), 323-367.

Oswald, M., Johnson, B., & Howard, S. (2003). Quantifying and evaluating resilience-promoting factors: Teachers' beliefs and perceived roles. *Research in Education, 70*, 50-64.

Ottewill, R. M. (2003). What's wrong with instrumental learning? The case of business and management. *Education and Training, 45*(4/5), 189-196.

Poulson, J., & Fouts, G. (2001). Facilitating academic achievement through affect attunement in the classroom. *Journal of Educational Research, 94*(3), 185-191.

Prosser, M. (2000). Using phenomenographic research methodology in the context of research in teaching and learning. In J. A. Bowden & E. Walsh (Eds.), *Phenomenography* (pp. 34-47). Melbourne, Australia: RMIT University Press.

Prosser, M., Trigwell, K., & Taylor, P. (1994). A phenomenographic study of academics' conceptions of science learning and teaching. *Learning and Instruction, 4*, 217-231.

Richardson, J. T. E. (1999). The concept and methods of phenomenographic research. *Review of Educational Research, 69*(1), 53-82.

Rogoff, B., Turkanis, C., & Bartlett, L. (Eds.). (2001). *Learning together: Children and adults in a school community.* NY: Oxford Press.

Rowe, K. J. (2000, August). *"Problems" in the education of boys and exploring "real" effects from evidence-based research: Useful findings in teaching and learning for boys and girls.* Paper presented at the Teaching Boys Developing Fine Men Conference, Carlton Crest Hotel, Brisbane, Australia.

Rowe, K. J., & Rowe, K. S. (2000). *Inquiry into the education of boys.* [Submission to the House of Representatives Standing Committee on Employment, Education and Workplace relations]. Canberra, Australia.

Samuelowicz, J. (1999). *Academics' educational beliefs and teaching practices.* Unpublished PhD thesis, Griffith University, Brisbane, Australia.

Sandberg, J. (2000). Understanding human competence at work: An interpretive approach. *Academy of Management Journal, 43*(1), 9-25.

Svensson, L. (1997). Theoretical foundations of phenomenography. *Higher Education Research and Development, 16*(2), 159-171.

Trepanier-Street, M. (2004/2005). Teachers: Mentors of children. *Childhood Education, 81*(2), 66-69.

Trigwell, K. (2000). A phenomenographic interview on phenomenography. In J. Bowden & E. Walsh (Eds.), *Phenomenography* (pp. 47-61). Melbourne, Australia: RMIT University Press.

Wentzel, K. R. (1997). Student motivation in middle school: The role of perceived pedagogical caring. *Journal of Educational Psychology, 89*(3), 411-420.

Wentzel, K. R. (2002). Are effective teachers like good parents? Teaching styles and student adjustment in early adolescence. *Child Development, 73*(1), 287-301.