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Tambyah, Mallihai M. (2007) *What do SOSE teachers know? The significance of subject content knowledge among middle school teachers and teachers' professional identity*. In: AARE 2006 International Education Research Conference, 26-30 November 2006, Adelaide, Australia.

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**TAM06849**

**What do SOSE teachers know? The significance of subject content knowledge among middle school teachers and teachers' professional identity**

**Mallihai Tambyah  
School of Cultural and Language Studies in Education  
Faculty of Education  
Queensland University of Technology**

The middle years of schooling are an emerging area of interest to teachers, academics, teacher-educators and curriculum developers. It is argued that the middle school curriculum should be both integrated and discipline-based. In Queensland, the Studies of Society and Environment (SOSE) curriculum uses an outcomes approach which draws from a range of social science disciplines including history, geography, economics, politics, sociology, law, and ethics and studies, such as Aboriginal and Torres Strait Islander studies, Asian studies, environmental education and civics and citizenship. As such, SOSE fits preferred models of curriculum in the middle school. However, given the wide scope of the Queensland SOSE curriculum, teachers' knowledge of subject content knowledge is critical. One potential area for research is SOSE teachers' conceptions of the significance of content knowledge in their teaching. As part of a wider phenomenographic study of conceptions of subject content knowledge among middle school SOSE teachers, this paper will examine the literature on subject content knowledge among social science teachers. It is argued that particularly among early-career teachers, confidence in subject content knowledge increases competence and innovation in the classroom, thus laying the foundation for teacher professionalism based on content as well as pedagogical and curricular knowledge.

**Introduction**

The broad scope of Studies of Society and Environment (SOSE) poses many challenges for practising teachers in primary and middle school. SOSE is one of nine national Key Learning Areas (KLA) endorsed by the Adelaide Declaration on National Goals for Schooling in the Twenty-first Century (MCEETYA, 1999) which integrates a number of social science disciplines including history, geography, economics, sociology and politics. In addition, SOSE includes areas such as environmental studies, Aboriginal and Torres Strait Islander studies, Asian studies and civics and citizenship. In Queensland, SOSE is taught as an integrated, outcomes-based curriculum and as such, it fits the recommendations that middle school curriculum should be both integrated and discipline-based (Jackson & Davis, 2000). Considering the broad focus of the Queensland SOSE curriculum on knowledge derived from specific social science disciplines, teachers' subject content knowledge would appear to be critical.

However, as anecdotal evidence based on working with pre-service primary and middle school SOSE teachers indicates, the wide content basis of SOSE challenges teachers, and creates questions about SOSE teachers' knowledge base and professional identity. The implications of an integrated social education curriculum on teachers' professionalism and subject identity have not been researched widely. As Henderson (2005, p. 317) argues, there is a need for "sustained research on the implementation of many facets of the SOSE KLA".

A potential area for research is SOSE teachers' perceptions of content knowledge in their conception of teaching. This will address a perceived gap in the scholarship of how integrated social science curriculum affects middle school teachers' sense of competence, professionalism and identity. This paper will describe the context and examine some of the existing literature on social science teachers' subject content knowledge. As such, the study is part of a wider phenomenographic study of SOSE teachers' conceptions of content knowledge (which includes subject content knowledge) as the basis of their teacher professionalism and identity.

## **Context**

SOSE is compulsory for all students in the primary and middle years of schooling in Queensland. It is usually taught as an integrated study although in years 9 and 10 there is also the option to study SOSE based on optional civics, history or geography syllabuses. The philosophical foundation for studying the disciplines in a way that connects established bodies of knowledge can be traced back to the philosopher John Dewey. Dewey did not want to abandon traditional subjects in the curriculum but "he wanted them to be taught in a way that makes them genuine subject matter" (Noddings, 1998, p. 37). The disciplines of history and geography were both important to Dewey, but he held that each of these disciplines "should enter the curriculum as a way of explaining human activity, enlarging social connections, or solving social problems" (Noddings, 1998, p. 37). His belief that the lines between the disciplines should be less rigid, and that students should be able to make sense of the curriculum in terms of their own experience resonates with us today (Noddings, 1998, p. 38), and is an essential feature of the Queensland SOSE curriculum. In addition, the socially-critical approach to knowledge which underpins the Queensland SOSE syllabus (QSCC, 2000, p. 8) was derived from the work of Jurgen Habermas (1971) which identifies "the implications of knowledge for just, democratic and sustainable social practices" (Gilbert, 2005, p. 26, 66). The integrated approach to knowledge using a socially-critical approach in SOSE calls for well-informed teachers who are conversant with the discipline-bases of SOSE.

The middle years of schooling are an emerging area of interest to teachers, academics, teacher-educators and curriculum developers (Cormack & Cumming, 1995, Pendergast, 2005). In one of seven recommendations for middle schooling, Jackson and Davis (2000) argue that the middle school curriculum should be both integrated and discipline-based. While this view of curriculum is open to debate (Chadbourne & Pendergast, 2005, p. 31), proponents of middle schooling believe that "curriculum appropriate to the needs of early adolescents is focused on identified needs; it is negotiated and linked to the world outside the classroom. In addition, it is explicit and outcome based..." (Pendergast, 2005, p. 5). This view of curriculum is endorsed in the depiction of learners and learning in the Queensland SOSE syllabus: "learning requires active construction of meaning and is most effective when it is developed in meaningful contexts and accommodates, acknowledges and builds on prior knowledge" (QSCC, 2000, p. 8). The syllabus promotes a learner-centred approach based on the principles of inquiry learning "by using problem-solving and decision-making techniques of various traditions of inquiry" (QSCC, 2000, p. 8). Through the use of reflective inquiry, the teaching of SOSE must relate knowledge of the social science disciplines to the interests, concerns and educational needs of young people in the middle years of schooling.

Middle school learners are early adolescents. However, adolescence is a contested term, with middle school learners considered "young" adolescents (Bahr, 2005, p. 48). Early adolescence, bounded either by age or qualitative markers, appears to start from about the age of 11-14 (Rice & Dolgin, 2005). (See Bahr, 2005, pp. 48-64 for a comprehensive discussion of contemporary literature on stable and contested views of adolescence.) While deficit views of youth and adolescence are

used in the media to characterise young people (Bahr, 2005, p. 51), a new model of the middle years learner proposes that learners need to be seen in their “cultural and social context” (Bahr, 2005, pp. 61-63). They are individuals who are maturing, “with a set of personal characteristics or assets including global awareness and self-orientation” (Bahr, 2005, p. 62). Early adolescents are a particular cohort with identified assets and needs and it is crucial that middle school teachers have the confidence and professional competence to help them make sense of their world.

Middle school SOSE teachers’ conceptions of practice can be explored within the context of postmodern teacher professionalism. Sachs (2003, p. 18) argues the need to rethink the practice of teacher professionalism because since the 1990s, teachers in a range of teaching institutions have been responding to “various school reform and teacher development activities ... in response to wide-ranging social and political conditions”. There is political pressure to direct the processes and provision of education; at the same time, education must be provided more economically and efficiently. Teachers are required to prepare students to be “numerate, literate and able to take on civic and social responsibility” (Sachs, 2003, p. 18). Middle school teachers, like all members of the profession, have to be able to cope with “rapid change inside and outside their classrooms” (Sachs, 2003, p. 18), a situation most often associated with teaching in changing times (Hargreaves, 1994). In the context of teaching in rapidly changing times, according to Goodson and Hargreaves (1996, p. 20) new notions of “postmodern professionalism” are emerging. They propose a new model of postmodern professionalism where teachers exercise “discretionary judgement” over issues of teaching, curriculum and care (Goodson and Hargreaves 1996, pp. 19-21).

Since SOSE draws on such a broad range of social science disciplines and studies, Queensland SOSE teachers have considerable discretion over what they choose to teach and how they interpret and implement the core learning outcomes and foundation level statements of the SOSE syllabus, directly affecting their professionalism and identity as teachers.

### **Theoretical framework**

This paper is part of a wider study of SOSE teachers’ conceptions of content knowledge. The proposed research is a qualitative study using phenomenography to investigate SOSE teachers’ conceptions of content knowledge in the middle years of schooling through interviews and focus groups. Phenomenography is a research specialisation that aims to map “the qualitatively different ways in which people experience, conceptualize, perceive, and understand various aspects of, and various phenomena in, the world around them” (Marton, 1988, p. 178-179).

It is anticipated that the interviews and discussions with teachers will yield rich data on conceptions of SOSE content knowledge. Based on the categories of description generated by the study, the *outcome space* will map the limited number of qualitatively different ways in which middle school SOSE teachers conceptualise SOSE content knowledge. The *categories of description* mapped in the outcome space will illuminate conceptions of content knowledge of middle school teachers. In turn, these views will inform the portrayal of teachers’ professionalism and identity.

The value of using phenomenography as the basis of a study into teachers’ conceptions of content knowledge is that this approach is aimed at “achieving a detailed account of how teaching and learning are experienced by those involved” (Squires, 1999, p. 119). As such, phenomenography values “the subjectivity of those involved [and] it asserts that teaching and learning are intentional activities, concerned with the construction of meanings” (Squires, 1999, p. 119).

The object of this paper is to examine some of the literature on subject content knowledge among social science teachers to provide the context for the yet to be undertaken study on middle school teachers’ conceptions of content knowledge which may provide new insights into teacher professionalism and identity.

## **Role of content in teaching and learning**

The importance of knowing and understanding what one is about to teach is critically important in teaching and distinguishes teaching from the helping professions or parenting. Hawkins (1974) argues that teachers and students “have a common involvement in subject matter” and it is essential “for the teacher to develop an attitude of respect toward the student as a learner of that content” (cited in Grossman & Schoenfield, 2005, p. 202).

While it is widely accepted that “[k]nowledge of subject matter occupies a central place in the knowledge base of teaching” (Grossman, Wilson and Shulman, 1989, p. 33), research has shown that teachers’ content knowledge is not strongly associated with student performance (Good, 1990, p. 26). Good draws on the conclusions of Druva and Anderson (1983 cited in Good, 1990, p. 26) who found in a meta-analysis of sixty-five studies relating to the teaching of science that there was only “a moderate relationship between teacher knowledge and student performance”. Good argues that content knowledge alone is insufficient and that knowledge of teaching methods is essential to successful teaching. He makes the case that more research evidence is needed “about those skills that allow teachers effectively to transform subject matter knowledge into instructional knowledge” (Good, 1990, p. 41).

Similarly, Grossman and Schoenfield (2005, p. 205) in their review of research on teaching subject matter found that “the links between content knowledge and teaching performance are not all that easy to document”. A review of the research on teacher education in the United States by Wilson and colleagues “concluded that although subject matter knowledge of some form is important, the field needs to learn more about the specific kinds of subject matter knowledge that matter in teaching” (Wilson, Floden & Ferrini-Mundy, 2001 cited in Grossman & Schoenfield, 2005, p. 206).

The current review of the literature on teachers’ subject knowledge is rooted in the premise that there is an identifiable relationship between the centrality of middle SOSE teachers’ subject knowledge and teachers’ professionalism. Classroom observations gathered for *The Queensland School Reform Longitudinal Study* (2001) indicated “the pressing need to enhance the intellectual demandingness of pedagogy in Queensland schools. This is particularly so at the Year 8 level” (QSRLS, 2001, p. xxv). The problem of low levels of intellectual demand were “not only related to pedagogy and assessment—it is also a problem of inadequate threshold knowledge” (QSRLS, 2001, p. xvii). The study found that some teachers in Queensland rated “basic skills as the highest of their priorities, and intellectual engagement and demand as the lowest” (QSRLS, 2001, p. xiv). There are implications here in the link between intellectually demanding classrooms, teachers’ knowledge base and ability to translate this knowledge in terms of pedagogy and assessment.

## **Knowledge base for teaching**

Any research into teachers’ conceptions of subject content knowledge needs to consider first the broader question of what constitutes the knowledge base of teaching. This basic, but profoundly important question was raised by Lee Shulman (1987) in the context of providing a statement of direction for research into teacher education and the foundations of “new reform” affecting US schools and society in the 1980s. His formulation of the knowledge base of teaching was particularly concerned with “the professionalization of teaching—the elevation of teaching to a more respected, more responsible, more rewarding and better rewarded occupation” (Shulman, 1987, p. 3). However, distinctions need to be drawn between Shulman’s concern with *professionalisation* in teaching, i.e., “teaching demands an explication of the knowledge base to justify professional status” and *professionalism* which refers to

“the manner of conduct within an occupation” (Sockett, 1987, p. 216).

Professionalism refers to the integration by teachers of the “practical and theoretical knowledge and skill in a context of collegiality and the contractual relationship with their various clients” (Sockett, 1987, p. 216). Thus, although Shulman’s question, “What are the sources of the knowledge base for teaching?” (1987, p. 4) was raised almost 20 years ago in order to improve teacher professionalisation, it is still a relevant question to explore in the context of teacher professionalism and identity today.

Shulman distinguished three categories of content knowledge: subject matter content knowledge, pedagogical content knowledge and curricular knowledge (Shulman, 1986, p. 9). As summarised by Turner-Bisset (2001, p. 12, Figure 1.3), based on these 3 general areas, there are seven categories of knowledge bases for teaching attributed to Shulman:

- Content knowledge (subject matter knowledge)
- General pedagogical knowledge...
- Curriculum knowledge...
- Pedagogical content knowledge, that special amalgam of content and pedagogy that is uniquely the province of teachers, their own special form of professional understanding
- Knowledge of learners and their characteristics
- Knowledge of educational contexts...
- Knowledge of educational ends, purposes and values and their philosophical and historical grounds.

Shulman defines content knowledge simply as referring “to the amount and organization of knowledge per se in the mind of the teacher” (Shulman, 1986, p. 9). However, this does not merely mean a collection of facts about a topic or an issue. Drawing on the work of Schwab (1978), Shulman states:

In the different subject matter areas, the ways of discussing the content structure of knowledge differ. To think properly about content knowledge requires going beyond knowledge of the facts or concepts of a domain. It requires understanding the structures of the subject matter....

Teachers must not only be capable of defining for students the accepted truths in a domain. They must also be able to explain why a particular proposition is deemed warranted, why it is worth knowing, and how it relates to other propositions, both within the discipline and without, both in theory and in practice (1986, p.9).

In Shulman’s view, teachers need a deep understanding of how their discipline is structured as well as the knowledge of facts and concepts.

In their discussion of subject matter knowledge for teaching, Grossman, Wilson and Shulman (1989, p. 24) define and explore “the four overlapping dimensions of subject matter knowledge that are relevant to teaching: content knowledge, substantive knowledge, syntactic knowledge, and beliefs about subject matter”. Influenced by Dewey’s insight that subject knowledge for the scientist was related but different from subject knowledge for the teacher, the basis of these distinctions draws on their awareness that there were “fundamental differences between the subject matter knowledge necessary for teaching and subject matter knowledge per se” (Dewey, 1983; Grossman, Wilson & Shulman, 1989, p. 24). These authors assert that while teachers need to have a scholarly or disciplinary basis to their knowledge, “teachers also need to understand their subject matter in ways that promote learning” (Grossman, Wilson & Shulman, 1989, p. 24). The reason is because the goals of teachers are different from those of scholars: “Scholars create a new knowledge in the discipline. Teachers help students acquire knowledge within the discipline” (Grossman, Wilson & Shulman, 1989, p. 24).

The distinction between the work of scholars and teachers thus hinges on the nature of their work in a chosen discipline. However, the role of teachers in developing new knowledge is supported by Grossman (1995) who considers that teacher knowledge is dynamic in nature:

Teachers' knowledge is not static. In the process of teaching and reflecting upon teaching, teachers develop new understandings of the content, the learners, and of themselves. While teachers can acquire knowledge from a variety of sources, they also create new knowledge within the crucible of the classroom (Grossman, 1995, p. 22).

Grossman's views supports what experienced teachers already know—that classroom teaching broadens teachers' subject knowledge; such experience is valued for its role in the production of knowledge between teachers and students.

The dimensions of subject matter knowledge identified above make a clear case for the importance of teachers having a clear and well founded knowledge of the disciplines as their knowledge base. The four dimensions of subject matter knowledge are discussed below.

Grossman, Wilson and Shulman (1989, p. 27) define content knowledge for teaching, as "the 'stuff' of a discipline: factual information, organizing principles, central concepts". Such knowledge is central to teaching. The ability to define concepts separately within the field, as well as relationships with concepts outside the discipline characterises this type of knowledge. Thus, in their example, a European history teacher needs to know about the Renaissance and the Reformation as well as about chronology and causation (1989, p. 28). Teachers will need to learn new content and those who opt not to teach unfamiliar topics may depend heavily on the textbook, and use transmission approaches to teaching to avoid students' questions (1989, p. 28). Grossman, Wilson and Shulman (1989, p. 29) emphasise that because teachers cannot know everything about their subjects before they begin teaching, they have a "responsibility to acquire new knowledge throughout their careers". For SOSE teachers the impetus here is to be familiar with the disciplinary bases of the KLA and then to widen their knowledge of a variety of topics or issues which could be taught in the classroom.

In her work to further clarify and explicate all of the knowledge bases for teaching, Turner-Bisset (2001, p. 14) characterises Shulman's (1986) view of content knowledge as "substantive knowledge, syntactic knowledge and beliefs about the subject". Substantive knowledge can be understood as "the substance of the discipline: the facts and concepts of a subject...[and] the frameworks used to organise these facts and concepts" (Turner-Bisset, 2001, p. 14). Through syntactic knowledge of the discipline, for example, in the teaching of history, students would go "beyond learning about history, to doing history for themselves" (Grossman, Wilson & Shulman, 1989, p. 30). Drawing on work by Wilson and Wineburg (1988) Turner-Bisset (2001, p.14) asserts that beliefs about the subject, are "just as an important aspect of subject matter knowledge as substantive and syntactic knowledge, and influenced by one's understanding, or lack of understanding of these structures". Supporting the case that beliefs about subject matter affect teaching of content, Grossman, Wilson and Shulman (1989, p. 31) give the example of a social studies teacher, Fred, whose undergraduate degree was political science. He believed that history was a collection of facts, of little relevance to students' lives, so he taught history through through the prism of political science, which, in his view, involved interpretation and involved students as future participants in democracy. In this example, rigid beliefs about history coloured Fred's approach to teaching it.

It would appear that in terms of content knowledge alone, teachers need far more than a shallow grasp of the main issues or facts—rather, their beliefs about a subject, knowing the essential facts and concepts, as well as being able to defend why something is worth knowing is all part of the subject content knowledge base of teaching.

The work of Shulman (1986, 1987) and Tuner–Bisset’s (2001) more detailed explication of the knowledge bases of teaching have uncovered the many facets of what teachers need to know in order to practise their profession. However, the question of “what do teachers know about their subject?” has been a deeply unfashionable question to ask, given the emphasis in the teacher-education literature on the process aspects of teaching, such as effective teaching, managing classrooms, knowledge of learners in different socio-cultural contexts, and the culture of schools. For example, in their preface to a widely used, contemporary teacher-education textbook, Groundwater-Smith, Ewing and Le Cornu (2003, p. vi) describe teaching in the following manner:

It is intellectual, emotional and physical work and it is also socially responsible work. It is incontestable that teachers need a considerable array of skills in identifying, analysing and assessing learning, and in designing, implementing and evaluating classroom programs. Teachers also need to be capable communicators beyond their classroom. They need to be effective colleagues, careful and sensitive in their dealings with the community and guided by precepts of equity and justice. Learning to be a teacher goes far beyond learning to be an instructor.

Clearly this description of what teachers do is wide-ranging and takes into consideration the very basis of teachers’ work and professionalism. However, despite the reference to the intellectual aspect of teaching, the focus is on the “how” rather than the “what” of teaching.

### **“The missing paradigm”**

The emphasis on the procedural aspects of teaching, through research into “teaching effectiveness” and “process-product studies” was, according to Shulman (1986, p. 6), “designed to identify those patterns of teacher behaviour that accounted for improved academic performance among pupils”. These studies are important because they promote knowledge on student learning; however, Shulman (1986, p. 6) states that the “missing paradigm” in the teacher-education literature is a focus on subject matter. Shulman makes this criticism in light of 1980s efforts in the United States to professionalise teaching. In his critique of Shulman’s approach, Sockett (1987, p. 215) states that in Shulman’s view, “[w]hat is to count as teaching knowledge is only valid if it can be measured, or at least publicly assessed and explained. Professionalization, Shulman is saying, demands an account of the knowledge base of teaching. That knowledge base frames both teacher education and teaching practice”.

So what does Shulman mean by “the missing paradigm”? He refers to historical understandings of teaching when the defining characteristic of good teaching was knowledge of content; the distinct separation of content and process was not common, for, “a century ago the defining characteristic of pedagogical accomplishment was knowledge of content” (Shulman, 1986, p. 7). In contrast, more recently, the process or procedural aspects of teaching have been emphasised in teacher-education and in the research literature (Shulman, 1986, p. 5). Thus:

The missing paradigm refers to a blind spot with respect to content that now characterizes most research on teaching and, as a consequence, most of our state level programs of teacher evaluation and teacher certification (Shulman, 1986, pp. 7-8).

Shulman’s assessment is that the substance of teacher-education and thus teaching practice has ignored questions of the “what” of teaching: he states, “What we miss are questions about the *content* of the lessons taught, the questions asked, and the explanations offered” (Shulman, 1986, p. 8). While it does not discount the importance of pedagogy as an essential aspect of the overall knowledge base of teachers, “the missing paradigm” refers to the substantive and syntactical knowledge base of teaching. As Shulman states, “Mere content knowledge is likely to be as



useless pedagogically as content-free skill. But to blend properly the two aspects of a teacher's capacities requires that we pay as much attention to the content as we have recently devoted to the elements of teaching process" (Shulman, 1986, p, 8).

### **A view of teaching**

As this study draws heavily on elements of Shulman's approach to teachers' knowledge, it is worth exploring his view of teaching (1987) for its relevance to the work of middle school teachers today. Based on Fenstermacher (1986), Shulman (1987, p. 7) states what appear to be commonly held notions of teaching: that "teaching necessarily begins with a teacher's understanding of what is to be learned and how it is to be taught". This view is based on the notion that the "teacher knows something not understood by others, presumably the students" (Shulman, 1987, p. 7). Thus, teaching can be described as "ways of talking, showing, enacting, or otherwise representing ideas" (Shulman, 1987, p. 7) through instruction and a series of activities so that the student has the opportunity to learn, though learning itself is the student's responsibility. Eventually, teaching leads to greater understanding by the teacher and the student (Shulman, 1987, p.7).

We can detect here a fairly traditional understanding of the role of the teacher and the process of teaching for understanding. Shulman qualifies these views by asserting that his conception of teaching is not limited to passive transmission of knowledge, nor limited to direct instruction. He acknowledges that knowing subject matter, or content, while not an end in itself, "at least at the secondary level, subject matter is a nearly universal vehicle for instruction" (1987, p. 7). This view of teaching thus reasserts the traditionally held notion of "knowing your stuff" and appears to put the teacher, rather than the student, at the centre of the teaching-learning process.

Shulman's view of teaching could perhaps be characterised as a "rational or means-end approach" to curriculum where learning content, and acquiring more information is central to education (Groundwater-Smith, Ewing & Le Cornu, 2003, pp. 83-85). It assumes that the teacher is the source of knowledge, that students are perhaps deficient as they do not have this knowledge and that their existing knowledge is inadequate on which to build further understanding of concepts and issues. Grundy (1994 cited in Groundwater-Smith, Ewing & Le Cornu, 2003, p. 84) argues that "the rational approach to learning 'actually conceptualises learners as deficient and needing to be prepared for life through acquiring appropriate knowledge or content'".

While this may be a somewhat harsh interpretation of Shulman's view of teaching, Shulman's conceptualisation of pedagogical content knowledge is distinctive. His constructivist view of the teacher's professional knowledge acknowledges the centrality of the learner in the teaching-learning nexus. In terms of a distinctive body of professional knowledge for teaching, Shulman asserts that pedagogical content knowledge, "represents the blending of content and pedagogy into an understanding of how particular topics, problems or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction" (Shulman, 1987, p. 8). Clearly, for Shulman, the needs and abilities of students are a crucial part of the conceptualisation and delivery of content. In his view, pedagogical content knowledge "is the category most likely to distinguish the understanding of the content specialist from that of the pedagogue" (1987, p. 8). Thus, one could argue that any analysis of teacher professionalism and identity from the perspective of teachers' subject content knowledge needs to consider conceptions of pedagogical content knowledge as well as subject content knowledge.

### **SOSE teachers' knowledge: the disciplines**

There are very few specific studies on SOSE teachers' knowledge base, so this section of the paper draws on studies documenting the knowledge of teachers and pre-service teachers in the various disciplines and studies associated with

SOSE. The studies are drawn from teachers in primary and secondary school, both in Australia and overseas. The intention is to paint a picture of the overall view of the knowledge base of teachers and pre-service teachers in the social sciences.

As SOSE is an integrated curriculum, it poses some difficulties to teachers. Drawing on the work of Shulman and Sherin (2004) on the practical challenges of teaching interdisciplinary curriculum, in their discussion of integrating middle school curriculum, (Wallace, Venville and Rennie (2005, p. 161) assert that the most competent teachers “are challenged because they are asked to do different things with the disciplines, learn new kinds of pedagogical content understandings, and often work outside the dominant disciplinary culture”.

This was illustrated in a small study of secondary geography teachers during the early implementation of SOSE in Brisbane secondary schools. On interview, Lam and Lidstone (2001) found that these geography teachers admitted they could not teach the non-geography topics as well as they should. They found that the geography teachers in their sample “did not have the necessary professional knowledge and subject matter knowledge to do their integrative teaching job properly” (Lam & Lidstone, 2001, p. 79). Furthermore, some of the teachers they interviewed identified strongly as geography teachers and “argued that it would not be possible to change the subject identity, the beliefs and discipline outlook of teachers” (Lam & Lidstone, 2001, p. 76). Although Lam and Lidstone’s study was conducted at the very early stages of the implementation of the SOSE syllabus, it identified some important issues for a small group of secondary geography teachers in terms of subject content knowledge, pedagogical knowledge and the identity of teachers.

Research from overseas among geography pre-service teachers indicates the difficulties with pre-service teachers’ lack of disciplinary knowledge in geography. Gilsbach (1997) discusses the inadequacies of pre-service geography teacher education in the United States. For example, a 1991 National Council for Geographic Education (NCGE) survey of thirty teacher-training programs “found that 51 percent of the elementary teachers and 88 percent of the social studies teachers in those programs had not been required to complete a geography course” (NCGE, 1991, cited in Gilsbach, 1997, p. 2). The NCGE suggested that to remedy the problem, all teacher-education programs should include courses in basic geography content and methods (Gilsbach, 1997, p. 2). Similarly, research into a small group of undergraduate geographers at the University of London Institute of Education found that although most felt confident about teaching aspects in physical geography, secondary geography beginning teachers did not have a well defined common body of knowledge (Rynne & Lambert, 1997). Teachers need good content knowledge in order to feel competent for as Rynne and Lambert (1997) infer, if beginning geography teachers lack of competence or confidence to teach a particular topic, they may choose not to teach it. Teachers who do feel competent (Rynne & Lambert, 1997) are, however, more likely to engage students in geography in innovative and imaginative ways.

More recently, in their phenomenographic study into undergraduate geographers’ conceptions of teaching, learning and geography in Australia, UK and USA, Bradbeer, Healey and Kneale (2004) revealed a very general understanding of conceptions of geography. For example, “Roughly two-fifths of these students conceived of geography as the study of people and environment interactions but almost half saw geography in non-relational terms as the study of the world involving a separation of the human and the physical or natural components” (Bradbeer et al., 2004, p. 28). Spatial patterns and processes and areal differentiation were far less well understood as undergraduate geographers discussed the discipline generally in terms of its human-physical split. Overall, the study concluded that undergraduate geographers’ conceptions of geography lacked sophistication and very few noted it

had “any methodological basis, let alone one that is distinctive” (Bradbeer, et al., 2004, p. 32).

The record of teachers’ knowledge base in the teaching of history shows a similarly mixed picture. Wilson and Wineburg (1988) in their study of four beginning social studies teachers found that the varied disciplinary backgrounds of each of the teachers influenced their perspective on the teaching of American history. Each of the teachers differed along the dimensions of factual knowledge, the place of interpretation, chronology and continuity, reflecting each teacher’s particular disciplinary background. Their teaching reflected what they knew (or did not know) about history. The authors concluded that as social studies teachers teach a variety of disciplines they need knowledge of the structures of the social science disciplines in addition to their own. In Australia, the report into The National Inquiry Into School History (NISH) *The Future of the Past* indicates similar issues with subject knowledge. The Executive Summary of the report states,

There was widespread concern about the quality of many recently-trained graduate teachers who were applauded for their enthusiasm but who were a source of anxiety because of an apparently deficient knowledge-base in historical studies. This anxiety applied both to primary and secondary trainees (Taylor, 2000, p. vii).

Efforts are being made by some teacher-educators to address the problem of subject matter preparation in history. For example, Sim (2001) reports on a two year action-research study she undertook with her pre-service history teachers “to integrate pedagogical factors with the learning of particular discipline knowledge” (Sim, 2001, p. 1). Drawing on transformative learning theory Sim had positive results with student teachers who were encouraged to think as professionals and had to “clarify and justify” their purpose and approach to teaching history (Sim, 2001, p. 8). Commenting on pre-service teacher education of History/SOSE teachers, Triolo (2001, p. 6), argues against “the indiscriminate placement of all ‘newly-trained graduates teachers’ in a category of concern”. She argues that pre-service teachers who take a History Methods course at university or have strong history academic pre-requisites will have a good knowledge-base. This learning, she asserts, extends to the broader SOSE curriculum:

History Method students are more likely than not to have specialised in the teaching and learning of History and the use of historical resources, at the same as developing understandings of the wider curriculum perspective/focuses, values and issues of the SOSE learning area (Triolo, 2001, p. 9).

She qualifies these comments, however, by referring to the NISH finding that secondary teachers across Australia are grouped into SOSE Method courses with little or no discipline-based methods in the teaching of history. “Pre-service training of primary teachers would appear to cater even less for ‘History in SOSE’” (Triolo, 2001, p. 9). Middle school SOSE teachers are drawn from both primary and secondary school, so it is possible that in terms of the teaching of history in SOSE that the grasp of the disciplinary base of history is likely to vary considerably.

### **SOSE teachers’ knowledge: the studies**

As indicated in the discussion above on the teaching of geography and history, teachers and pre-service teachers from Australia, the USA and UK reportedly have difficulties with the scope of their own discipline and more broadly with the multi-disciplinary scope of SOSE (Australia) or social studies (USA). SOSE also draws on numerous studies associated with the social sciences such as Aboriginal and Torres Strait Islander Studies, legal studies, global perspectives, civics and citizenship and environmental education. The following section addresses the knowledge base of teachers in the teaching of global perspectives, citizenship education and environmental education.

Multiculturalism, civics and citizenship education are integral aspects of the Queensland SOSE syllabus with concepts associated with multiculturalism found in the Culture and Identity strand and concepts devoted to civics and citizenship in the strand Systems, Resources and Power (QSCC, 2000). These concepts are not taught within the disciplinary scope of SOSE, and thus require a different approach to their conceptualisation and understanding. Teachers' knowledge in each of these areas is just as critical as in the disciplines which underpin SOSE, yet because they may fall outside the scope of the traditional disciplines, teachers may not have the opportunity for formal learning or inservice in these areas. Dyer asserts that there is "a need for a definition that addresses the complexity of global education" and acknowledges its potential for "transformative education" (2006, p. 3). Global education is concerned with developing students' understanding of the world that is interconnected and interdependent; thus it depends on transforming students' attitudes, aims to empower them to celebrate the world and address injustice.

In order to do this, Dyer argues that the teaching of global education must be based on teachers' reflective practices of their own identities. The teaching of "global education in the classroom cannot be isolated from the teacher's identities [and] background experiences, which influence and shape their approaches to teaching in a global education curriculum" (Dyer, 2004, p. 1). One way to begin transformative learning is "through reflection on the stories and narratives embedded within teachers and students" (Dyer, 2006, p. 7). One could infer that through processes of self-reflection, the knowledge base of teachers to teach global education is enhanced.

The retelling and discovering meaning behind and within teacher stories can unlock and help see the world through a series of interconnected lenses, to understand the values that lie within and it can provoke transformation of self and others to work towards a more peaceful and just world (Dyer, 2006, p. 12).

The importance of knowledge of self as part of the knowledge base and conceptual basis for teaching multiculturalism and citizenship education in SOSE is supported by Banks (2001). Banks (2001, p. 6) believes that there is a need for a new approach to citizenship education, due to the large numbers of immigrants and the continuing "existence of institutional racism and discrimination throughout the world, and because of the widening gap between the rich and the poor". He also advocates a transformative approach to knowledge which aims "to use knowledge to change society" (Banks, 2001, p. 10). To facilitate this, Banks (2001, p. 5) believes "teachers must develop reflective cultural, national, and global identifications themselves if they are to help students become thoughtful, caring, and reflective citizens in a multicultural world society". He encourages his own students to do this by applying a critical perspective to their own cultural and racial journeys (Banks, 2001, p. 15). The knowledge base of SOSE teachers must thus move beyond formal learning and extend to examining and critiquing their own world view. Personal reflective approaches, drawing on knowledge of one's own experience are considered useful by both Dyer (2004, 2006) and Banks (2001) to teach concepts in SOSE associated with global education, multiculturalism and citizenship.

Environmental education enjoys a significant place in the Queensland SOSE curriculum with concepts such as ecological sustainability, the complex nature of environments and the need to protect natural, built and social environments embodied in the SOSE value of "ecological and economic sustainability" (QSCC, 2000, p. 2). Anecdotal evidence from working in SOSE curriculum with pre-service primary teachers indicates that environmental education topics such as Water, Global Warming, Endangered Species and Marine Environments are favourite environmental education topics among pre-service primary teachers. This supports Clark and Harrison's hypothesis (1997, p. 34 cited in Cutter & Smith, 2001, p. 123) that "many Australian primary schools are addressing environmental education, although they might not call it that".

Reporting on a qualitative ethnographic study and a quantitative survey of environmental education in pre-service teacher education, Cutter-Mackenzie and Tidbury (2001) found that student teachers' knowledge of facts, principles and concepts about the environment were weak. Students appeared to lack understanding of the vocabulary, basic concepts and theories associated with environmental education. Furthermore, their research found that the participants "were not particularly concerned about their own lack of knowledge" (Cutter-Mackenzie & Tidbury 2001, p. 29). Rather, both studies showed that the students valued the development of action and positive attitudes "as the core purposes of environmental education within the primary school curriculum" (Cutter-Mackenzie & Tidbury, 2001, pp. 26-27). Thus, positive beliefs and values about environmental education were valued over the "content, substantive and syntactic knowledge of environmental education" (Cutter-Mackenzie & Tidbury, 2001, p. 30). In further research with Queensland primary school teachers Cutter-Mackenzie and Smith (2003, p. 497) found that these teachers "are likely to be functioning at a 'knowledge' level of ecological illiteracy and/or nominal ecological literacy". They argue that teachers, pre-service education providers and government departments need to make a commitment to environmental education and knowledge production to further the goals of environmental education.

The authors conclude that if these levels of ecological illiteracy among primary teachers are widespread, that an "ecologically literate citizenry" in Queensland is unlikely (Cutter-Mackenzie & Smith, 2003, p. 520). They attribute primary teachers' lack of sophisticated knowledge of the concepts, principles and principles of environmental education to the notion among teachers that content in itself is not important as "the majority of participants revealed that 'a positive attitude' towards the environment is 'definitely' the most important characteristic to develop" (Cutter-Mackenzie & Smith, 2003, p. 516). The emphasis on feelings and attitudes, while very important, cannot satisfactorily take the place of knowledge of concepts, facts and theories about environmental education.

## **Conclusion**

This review of some studies of teachers' knowledge base of the disciplines and studies associated with SOSE supports the finding of the QSRLS (2001) study that Queensland teachers rate skills more highly than intellectual engagement. The teachers who participated in the study of environmental education displayed little concern about their relative lack of knowledge about the environment because they believed that developing attitudes and feelings about environmental issues was more important (Cutter-Mackenzie & Smith, 2003). It would be interesting to see if these findings are replicated in other disciplines linked to SOSE. Certainly the evidence of geography teachers teaching SOSE (Lam & Lidstone, 2001) showed ambiguity and lack of confidence to teach content in other discipline areas associated with SOSE. Secondary history teachers who have been taught history method and have a strong disciplinary background in history appear to cope well as SOSE teachers, although the picture regarding knowledge of history among primary school teachers is not as clear (Triolo, 2001).

Overall there is a need to investigate middle school SOSE teachers' conceptions of content knowledge. A phenomenographic study of conceptions of content may show the extent to which subject knowledge or lack of knowledge in SOSE affects the teaching of important topics or essential skills in history, geography and civics and citizenship education. Such a study may reveal flexible notions of teacher professionalism and identity as teachers develop content knowledge across more than one discipline and exercise their discretion in matters of teaching and curriculum. The current literature suggests there may be a risk that SOSE teachers are happy to teach engaging issues and topics in the absence of any real understanding of the underlying conceptual complexity.

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