Professional Dialogue, Reflective Practice and Teacher Research: Engaging Early Childhood Pre-Service Teachers in Collegial Dialogue about Curriculum Innovation

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Abstract: While embedded in teacher professional standards and assumed aspects of teacher professionalism, willingness and ability to engage in professional dialogue about practice and curriculum initiatives are rarely examined or explicitly taught in teacher education programs. With this in mind, the authors designed an assessment task for pre-service teachers that required them to interview their supervising teachers about the implementation of sustainability as cross-curriculum priority in the Australian national curriculum, and to write a reflective account of the process. Forty-seven early childhood pre-service teachers and their supervising teachers consented to the interview transcripts and reflective accounts being used as research data. Analysis of the reflective accounts highlights what enabled and constrained the dialogue across professional experience settings and the benefits of having pre-service teachers engage in such an assessment task. The authors discuss implications for pre-service teacher education and on-going teacher professional learning.

Currently, there is impetus for educational reform in both pre-service teacher education and professional learning for practising teachers (Australian Department of Education, Employment and Workplace Relations, 2011; Masters, 2009). In an early article, Cochran-Smith and Lytle (1999) highlighted shifting emphases in teacher learning, *from* a one-time process of 'teacher training' for pre-service teachers and periodic 'staff development' for experienced teachers, and *from* transmission-based to more constructivist-oriented professional learning experiences. These authors concluded that, "it is now broadly understood that teacher learning takes place over time rather than in isolated moments and that active learning requires opportunities to link previous knowledge with new understandings" (Cochran-Smith & Lytle, 1999, p. 258). Indeed, the "complex and situated nature of teaching" means that ongoing professional learning will be a lifelong activity for 21st century practitioners (Queensland College of Teachers [QCT], 2012, p. 12). According to the Australian Charter for Professional Learning of Teachers and School Leaders (Australian Institute for Teaching School Leadership [AITSL], 2012), teachers are required to take responsibility for and actively engage in professional learning in order to build their capacity and that of others. Teacher capacity comprises the potential for growth in terms of the disciplinary content and pedagogical content knowledge, skills, values and dispositions needed to be effective in diverse school communities (McDiarmid & Clevenger-Bright, 2008; QCT, 2012). Designing assessment experiences that promote

and value reflection and professional dialogue can assist teacher educators address the challenges of graduating teachers equipped for on-going professional learning.

"Key assessment challenges, particularly regarding the theory–practice nexus" have been highlighted in recent reviews of Australian teacher education (QCT, 2012, p. 11). The literature recommends authentic assessment tasks wherein pre-service teachers can consider more fully the interrelationships between theory, knowledge and practice "in a reflective and reflexive manner" (QCT, 2012, p. 5). The focus of this paper is on an assessment task that was designed to afford third-year pre-service teachers at a Queensland regional university an opportunity to intellectually engage in and to purposefully practise professional dialogue and reflection. As part of a larger portfolio assessment, pre-service teachers in a third-year Bachelor of Education (Early Childhood) professional studies subject were required to plan, initiate, conduct and reflect upon a structured interview with their supervising teachers during a school-based placement experience or 'practicum'. The interview was designed to scaffold professional dialogue regarding teacher perceptions and implementation of sustainability as a cross-curriculum priority in the Australian national curriculum (Australian Curriculum, Assessment and Reporting Authority [ACARA], 2011). The assessment task was aligned to the Australian Professional Standards for Teachers (AITSL, 2012), which identify professional engagement in collegial discussions for the purposes of enhancing professional knowledge and practice as an indicator of teacher expertise, as well as with the Professional Standards for Queensland Teachers (QCT, 2006, p. 5), wherein 'reflective practice and professional renewal' are depicted as integral to all of the other standards. Emphases in both sets of standards call for teacher educators to mandate opportunities for pre-service teachers to engage in professional dialogue and reflection as strategies to promote on-going professional learning. In the final report of an Australian Learning Teaching Council funded project, which focused on links between pre-service teacher learning in the practicum with graduate professional standards and overarching 'course' or 'program' goals, Ure, Gough and Newton (2009) stated that, "the relationship between the placement experience and the broader notion of professional learning is greatly under-researched" (p. 15). These authors contended that "little is known about how different experiences link development of understanding of the 'teaching self' with the professional skills of teaching" (p. 15).

This study adopts "a broad and complex framing of teaching as an activity that integrates teachers' essential knowledge, interpretive frameworks, teaching methods and skills, and knowing how to learn within inquiry communities" (Cochran-Smith, Mitescu, Shakman, & the Boston College TNE Evidence Team, 2009, p. 6). In particular, it looks to professional dialogue and reflection as potent tools for ongoing enhancement of teacher knowledge and practice. The assessment task undertaken within the practicum was designed to build pre-service teachers' capacity to actively engage in "systematic and intentional inquiry" (Cochran-Smith & Lytle, 1993, p. 27) about curriculum innovation and teacher perceptions, knowledge and practice by way of a structured professional conversation and reflective activities. Indeed, the interview transcripts offer rich opportunity for investigation of the variable capacity of teachers to respond effectively to sustainability as an Australian cross-curriculum priority in classroom practice across diverse early childhood education settings. However, it is pre-service teachers' reflections upon the processes and challenges of planning, initiating and engaging in professional dialogue with their supervising teachers that constitute the data for this paper. The paper explores factors that enabled and constrained the dialogue, the benefits of pre-service teachers' engagement in dialogue, reflection and inquiry, as well as the implications of the study's findings for pre-service teacher education and on-going professional learning.

Reflection, Dialogue and Participation in Communities of Practice and Inquiry

In Australia and internationally, "reflection on one's own perceptions, beliefs, experiences and practices is a core activity for all teachers – pre-service and in-service, in schools and universities" (Walkington, 2005, p. 59). Less common are requirements for pre-service teachers to engage in and develop skills and appreciation for professional dialogue, particularly where the pre-service teacher is positioned and prepared for having some authority. Reflection is so well established in teacher education that some pundits have noted that reflective practice is at risk of being taken for granted (Rocco, 2010). It is important to note that not everyone is predisposed to reflection (Hobbs, 2007). Developing skills and dispositions for reflection "requires practice, intellectual engagement and purpose" (Rocco, 2010, p. 313). Arguably, these conditions can be enhanced by combining reflection with professional dialogue.

Professional dialogue—or what may also be referred to as 'inquiry conversation', 'reflective conversation', 'learning conversation' or 'professional or collegial discussion' (Cochran-Smith & Lytle, 1999; Feldman, 1999; Le Cornu, 2006)—is "a discussion between peers that allows the other to explicitly articulate, appreciate and extend their understanding of practice" (Nsibande, 2007, p. 4). It is widely acknowledged that professional dialogue allows teachers to grow professionally (Corrigan & Loughran, 2008). Professional dialogue can play a key role in consolidating understanding of concepts shared by a professional community and, in its absence, learning is typically slower (Bereiter & Scardamalia, 1993). According to Cochran-Smith (2003), professional dialogue makes possible "the *learning* of new knowledge, questions and practices and, at the same time, the *unlearning* of some long-held and often difficult to uproot ideas, beliefs, and practices" (p. 9). The purposes of professional dialogue and reflective practice have much in common. Peer-to-peer exchange is an essential characteristic of professional dialogue and can enhance the quality of reflective practice (Rocco, 2010). In fact, "dialogue coupled with reflection and moved to action creates the conditions for transformative learning" (Donovan, Meyer, & Fitzgerald, 2007, p. 11).

Despite its role in professional learning, there are substantial barriers to teachers participating in professional dialogue (Daniel, Auhl, & Hastings, 2013). Teaching has long been characterised as an individual and isolated profession (Wei, Darling-Hammond, Andree, Richardson, & Orphanos, 2009; Westheimer, 2008). While the experienced teacher is seen as confidently independent and self-sufficient (Lortie, 1975), teachers who ask their peers about practices, request advice or open up their classrooms may be perceived as less than competent or may fear a loss of privacy and security (Cochran-Smith & Lytle, 1993; Lytle & Fecho, 1991; Richardson-Koehler, 1988). So too, advising peers about practices may well be interpreted as 'presumptuous' (Richardson-Koehler, 1988) in a culture wherein there are "prevailing norms of non-interference, privacy and harmony" (Carver & Katz, 2004; Little, Gearhart, Curry, & Kafka, 2003, pp. 189 &190). Horn and Little (2010) identified numerous constraints on professional dialogue, including difficulties in making tacit knowledge explicit, issues of difference and disagreement, insufficient structural and social supports, and demands of immediate and multiple tasks.

In spite of these barriers, Horn and Little (2010) recommended that substantive dialogue about teaching and learning should be encouraged and investigated further, given the "significance of teachers' collegial relationships as a factor in school improvement" and the rapidly increasing interest in 'professional learning communities' across schools and regions (p. 182). Professional school communities

comprising close collegial relationships between teachers are focused on student learning, teacher learning, collaboration, deprivatised practice and reflective dialogue (Kruse, Louis, & Bryk, 1995; Lieberman, 2011). Different measures on 'professional community' have been revealed in large longitudinal studies between stagnating and improving schools (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2009).

'Professional learning communities' or 'communities of practice' have become increasingly popular as avenues for teacher professional development. They are "informal entities that emerge spontaneously around issues of common interest" (Welsh & Dehler, 2004, p. 21). With a fluid membership that potentially extends beyond the school, these communities are nonetheless "situated learning sites", where learning occurs "in a framework of practice and productive activity", through the sharing and interactions of established and new members (Welsh & Dehler, 2004, p. 21). Such communities offer teachers professional development opportunities that "differ in quality and kind" from traditional professional development workshops and seminars (Lieberman, 1995, p. 73), which are "often intellectually superficial, disconnected from deep issues of curriculum and learning, fragmented, and noncumulative" (Ball & Cohen, 1999, pp. 3–4). Ball and Cohen (1999) argued that "without the development of substantial professional discourse and engagement in communities of practice" (p. 13), professional learning that "emphasizes questions, investigations, analysis and criticism" cannot be "adequately cultivated" (p. 13).

Such emphases resonate with the *Professional Conversations Model*, developed by teacher education providers and the Australian Capital Territory teacher registration authority, to support professional learning for pre-service and early career teachers. The model utilises the Australian Professional Standards for Teachers (AITSL, 2012) "not simply as a set of competencies to be displayed and observed but as a set of cues for critical investigation and evaluation" (Leonard, 2012, p. 48). It positions professional experience "as an opportunity for professional learning by all involved" (p. 47) and supervising teachers simultaneously as school-based teacher educators and co-investigators. Viewing teaching as a process of ongoing investigation is integral to an approach to teacher professional learning where the goal is to promote a lifelong ability to learn *from* teaching rather than short term learning *for* teaching (Darling-Hammond, Hammerness, Grossman, Rust, & Shulman, 2007). Teaching as inquiry, which includes notions of 'teacher research', 'teacher as researcher' and 'action research' involves processes of analysing and evaluating practice, and the context within which it takes place, in order to come to more deeply understand and transform it (Carr & Kemmis, 1986; Gould, 2008). Teacher action research, recognised by the Queensland teacher registration authority (QCT, 2010) as one source of ongoing teacher professional development, involves dynamic and emergent processes that evolve as co-inquirers deepen their understanding of key issues relating to student learning outcomes, and develop their individual and collective capacity to address them (Reason & Bradbury, 2008). According to Carr and Kemmis (1986), the broad aim of teacher action research is to review practice in order to "bring it under considered critical control", and to transform it into the "informed, committed action of *praxis*" (p. 190). The transformative potential of action research is maximised by what Kemmis (2001, p. 100) refers to as an "opening of communicative space", which promotes among co-investigators a democratic expression of divergent views and yet mutual understanding and consensus about what to do (p. 100).

The assessment task that generated the data for this study was designed to support pre-service teachers in opening 'communicative spaces' (Kemmis, 2001) with their supervising teachers. As the task designers, we were aware that the potentially greater familiarity with sustainability issues and themes, on the part of pre-service teachers, may temporarily disrupt the novice–expert relationship, characteristic of the

practicum. The focus on sustainability in a third-year professional studies subject built on the pre-service teachers' prior learning in a first-year core subject, wherein they investigated the underlying science and the socio-political contexts of key local and global sustainability issues, as well as strategies for classroom implementation and personal action. Challenges to the taken-for-granted positions of authority within the novice–expert relationship held within itself rich possibilities for reflective learning. The nature and requirements of the task involved all three elements of reflection, as defined by Whitton, Sinclair, Barker, Nanlohy and Nosworthy (2004) – "direct experience; analysis of beliefs, values or knowledge about that experience; and consideration of the options which should lead to action as a result of the analysis" (p. 220). We were hopeful that the combination of professional dialogue and reflection would allow for established ideas and practices to be challenged, and novel ideas, skills and practices to be created by both the pre-service and supervising teachers. Accordingly, our key research question is as follows: What are the benefits of an assessment task primarily focused on professional dialogue for pre-service teachers and what are the implications for teacher professional learning?

Methods
Participants

The cohort who completed this assessment task comprised 34 external (online) and 23 internal (face-to-face) pre-service teachers enrolled in a Bachelor of Education (Early Childhood), undertaking a third-year professional studies subject and the accompanying school-based practicum in 2012. Forty-seven of these pre-service teachers—82% of the total cohort—and their supervising teachers or 'School-based Teacher Educators' (SBTEs), contributed to this study by giving ethical consent for the interview transcripts and reflective accounts to be used by the authors as research data. The participant pre-service teachers were placed for their practicums in 30 State, 12 Catholic and five Independent schools and preschools in regional, remote and metropolitan areas, predominantly in Queensland. Four pre-service teachers, enrolled in the online mode, were placed in schools in New South Wales, Western Australia and South Australia.

Procedure

In accordance with the conditions of approval for the ethical conduct of research obtained from the University's Human Research Ethics Committee, the pre-service teachers were required to gain consent from their school principals and their supervising teachers to participate in a 15-minute interview and allow their responses to be used for research purposes. The pre-service teachers were also asked to consent to the use of their reflections for the purposes of this research. Five of the 47 pre-service teachers were unable to secure consent for an interview with their supervising teacher and instead were encouraged to interview another member of staff, including a teacher, teacher aide and principal, with recognised interest or expertise in sustainability. The inclusion of the reflective accounts of these five pre-service teachers added to the richness and complexity of the data set.

Prior to a week-long placement block (wherein the interviews were conducted), pre-service teachers were required to locate, evaluate and create an annotated bibliography of at least six online resources that would support integration of Education for Sustainability (EfS) as a cross-curriculum priority in an early childhood program.

The six resources were to include a minimum of two current curriculum or policy documents. Pre-service teachers were provided with the following schedule of five questions to ask their supervising teachers:

1. Why do you think EfS is included as a national cross-curriculum priority?
2. What resources are available in the school/centre to support teachers' efforts to address EfS?
3. How do you bring EFS into your classroom practice?
4. What are some of the challenges and obstacles you face in your efforts to integrate EfS?
5. Is EfS a personal priority for you?

Pre-service teachers were encouraged to add their own questions of interest to the schedule. While we acknowledge that pre-service teachers cannot escape from the power relations of the expert and the novice in their professional experience settings, we consider the following factors as enablers in terms of fulfilling task requirements: (a) pre-service teacher prior knowledge and understanding gained through the first-year foundational subject in sustainability; (b) the 'reorientation to EfS' activity, involving sourcing, evaluation and compilation of relevant resources; and (c) the provision of the semi-structured interview schedule.

Analysis

Following professional experience, pre-service teachers were required to submit the interview transcripts and their reflections via the University's online learning management system, as part of their portfolios. After submission and finalisation of assessment of the portfolio tasks, the reflections and transcripts of consenting participants were downloaded, collated and shared among the authors. While the interview transcripts were not analysed for the purposes of this paper, they were used to cross-reference and clarify claims made in the reflective accounts. The authors employed a thematic analytical approach, wherein key themes emerged from the data and serve as analytical categories (Fereday & Muir-Cochrane, 2006). Processes were multi-iterative and non-linear, involving Cresswell's (2009) strategies of organising data, reading through data, beginning coding, generating categories and/or themes based on coding, deciding how themes will be presented, and interpreting the data. Given the purpose of the assessment task was to build pre-service teacher capacity in planning, initiating and participating in a professional conversation, and the aim of this paper—to offer the teaching and teacher education fraternity some insights into how this might be achieved—the analysis of data engendered two broad organising themes:

i. Challenges and strategies in initiating and facilitating collegial dialogue about sustainability
ii. Benefits of participation in collegial dialogue about sustainability

What follows is a descriptive interpretation of these themes as they emerged from the authors' repeated reading, discussion and negotiation of the pre-service teachers' reflective accounts.

Findings from Pre-Service Teacher Reflections
Challenges and Strategies in Initiating and Facilitating Collegial Dialogue About Sustainability

A number of challenges in initiating and facilitating professional dialogue emerged from pre-service teacher reflections. One key challenge was of a practical nature, involving the lack of time to schedule a formal interview in the one-week

placement block. This constraint was heightened by the fact that the placement coincided with the first week of a new school term. In certain cases, it was apparent that the timing resulted in professional exchanges that were experienced by the pre-service teacher as less than satisfactory.

It was extremely difficult to find an opportunity to 'pin down' my SBTE... because of the heavy workload and scheduling difficulties in the first week of term... Before school, organising the day took precedence. After school, either parents or pre-arranged appointments were obstacles (PST43).

Due to commitments in professional development and staff meetings, the interview had to be rescheduled on numerous occasions (PST32).

Schools are busy places, scheduling an interview into the five day practicum was difficult … a 15 minute window was all that we could manage (PST19).

I was a little disappointed with how this transpired. It was a good lesson in making myself clear about requirements. Although I mentioned that I was required to have a collegial conversation and asked them to let me know when would be a good time, it ended up being much more informal and off the cuff than I had anticipated (PST14).

Pre-service teachers also felt that adequate rapport had not yet been developed with their SBTEs in the timeframe to comfortably engage in open and honest professional dialogue about teacher perceptions and classroom practices. Some pre-service teachers reported a reluctance to initiate professional dialogue especially given that they were novices and that they had not witnessed conversations of a professional nature between teachers in the professional experience setting.

Initiating and facilitating focused collegial conversation seemed daunting. Often professional conversations that relate to what we think about teaching and learning and what we think is important are not engaged in. Professional conversations are usually avoided and replaced by everyday conversation. This was evident when observing staff conversations (PST17).

While both my SBTE and myself appeared to share a common teaching philosophy, the trust needed to converse in an open, confident manner was not as strong as I would had wished (PST19).

Nonetheless, a number of pre-service teachers reflected on enhanced confidence in fulfilling the requirements of the task through careful planning for the interview and efforts to establish a friendly environment, despite the lack of opportunity to get to know the SBTE well within the course of the week. One pre-service teacher communicated that having to facilitate the formal interview assisted in building a relationship with their SBTE.

The prospect of conducting a collegial conversation made me feel nervous initially. However, after recording the sequence of steps to be taken to secure the interview, I felt more confident (PST30).

It was best to create a friendly and relaxed environment for the interview to be effective (PST13).

The interview took place on my second day at school; therefore, we were still in the early stages of building a professional relationship. I endeavoured to conduct and facilitate the interview in a professional manner and focused on helping the teacher feel comfortable during the process. This was a positive and an important early step in our professional relationship (PST31).

Pre-service teachers also perceived the substantive focus of the interview to be challenging. Their reflections revealed reluctance on their part to request the interview because they were uncertain of their supervising teacher's understanding of and commitment to sustainability. So too, pre-service teachers reported a reluctance on the part of supervising teachers to engage in professional dialogue seemingly due to a lack of knowledge, experience or expertise in the area.

I felt nervous as I was unsure about my SBTE's ideologies about sustainability. It was quite daunting to delve into their personal ideas and beliefs about any topic, especially about sustainability as my previous SBTE had no interest or care about this issue (PST2).

> *My SBTE seemed uncertain about what to say and aware that they probably did not have 'enough' knowledge; they seemed flustered and agitated about giving the interview (PST46).*
>
> *I was surprised at my SBTE's resistance to the interview and the topic of EFS, as in all other areas, they were very enthusiastic and ready to share their knowledge (PST28).*
>
> *My SBTE did admit that it was a topic that they had limited knowledge in and did feel uncomfortable teaching. It was evident that they were nervous about the topic (PST13).*

Conversely, in one case, the pre-service teacher felt "anxious about wasting my SBTE's valuable time", in light of the fact that their supervising teacher had undertaken postgraduate studies in sustainability, and they were "still a novice" (PST26).

In spite of the reported reluctance on the part of interviewer and interviewee, many pre-service teachers addressed this constraint by giving the interview schedule to their supervising teachers, prior to the interview, affording interviewees time to reflect, prepare responses and locate necessary resources to support the professional dialogue. Pre-service teachers felt that the quality of responses was enhanced by providing supervising teachers with the schedule of questions in advance of the interview.

> *Letting the teacher know what to expect and providing them with the questions enabled the teacher to be comfortable and to prepare for answers (PST5).*
>
> *I felt as though the quality of the responses and dialogue was increased (PST35).*
>
> *After the interview, my SBTE noted how they enjoyed having time to think and brainstorm answers to the questions by being given the interview questions in advance (PST20).*

In some cases, the pre-service teacher did not offer the schedule and the supervising teacher asked for it or the pre-service teacher felt, in hindsight, that the strategy would have been helpful.

> *I did overlook the fact that my SBTE was a little nervous about participating in this more formal interview process and I should have given them a copy of the questions before the interview took place. This would have given them an idea of what was expected of them and time to consider the message they wanted to convey (PST38).*

In summary, pre-service teacher reflections revealed three key challenges that constrained the facilitation of professional dialogue through a formal interview: challenges of a practical nature (i.e., scheduling the interview within a one-week timeframe, especially given that it was the first week of a term); challenges associated with the requirements of the task (i.e., a reluctance largely on the part of pre-service teachers to pry into their supervising teacher's perceptions and practices, especially given a lack of rapport and opportunity to witness professional conversations as everyday occurrences) and challenges related to the substantive focus of the interview (i.e., a reluctance on the part of both pre-service and supervising teachers to engage in discussion concerning the topic of sustainability). In their reflections, pre-service teachers identified several factors that enabled the professional dialogue to occur within the constraints of the one-week practicum. Enablers of the professional conversations were careful planning on the part of the pre-service teacher for the interview, establishing a relaxed environment conducive to professional conversation—and, in one case, relationship building—between participants, and providing supervising teachers with interview schedules in advance.

Benefits of Participation in Collegial Dialogue about Sustainability

A number of benefits, resulting from engagement in professional dialogue, emerged from pre-service teacher reflections. Firstly, it was evident that pre-service teachers developed teacher researcher skills. As highlighted in the previous section, these skills included scheduling and adequately planning for an interview, giving the interviewee questions in advance of the interview, and creating an environment

conducive to professional dialogue. Pre-service teachers reflected on how they could more effectively conduct interviews in the future. In their reflections, some pre-service teachers attributed a rigidity or lack of flow in the dialogue to the nature of the questions that they asked, their desire to get through all of the questions in the 15 minutes, and their inability to respond to interviewees in a natural and informed way.

I did not create a conversation, rather I did a rigid question and answer interview. I was more concerned about making sure I asked all the questions, rather than feeding off their responses and allowing it to be more fluent. For future reference, I need make allowance for the interview to take a different direction and respond to the answers that are given (PST45).

I struggled to know what to say after they had answered the question and, on occasions, I believe I replied too quickly, which eliminated any chance of the teacher adding other comments (PST37).

It was evident that she was nervous about the topic … to maintain a rich and focused collegial conversation, I should have made reference to and had sound knowledge of the policy documents around EfS (PST42).

I would ensure I have some follow-on questions of my own to try and create a more flowing collegial conversation (PST33).

One of the points I have become aware of as I typed the transcript was the fact that my questions could have been worded differently, on a more open basis rather than a closed one. Some of the questions have a one word answer but if I had phrased the questions differently the answers could have been more informative (PST9).

A second key benefit to emerge from pre-service teacher reflections was that the interview provided insight into the challenges and opportunities involved in the implementation of sustainability as a cross-curriculum priority in class programming. Supervising teachers discussed their practices and personal perspectives relating to EfS, as well as the value afforded to and investment in sustainability initiatives by the wider school community.

The interview allowed me to see some of the challenges that teachers face when implementing EfS as a cross-curriculum priority, including the difficulties associated with creating rich learning experiences as opposed to shallow integration (PST18).

The interview was very informative as to just how easy it is to include EfS within the classroom and the school grounds (PST11).

It provided a clear insight into EfS at a personal and school level (PST31).

It enabled me to have some real insight into what is and isn't a priority (PST15).

It was apparent that the interview exposed pre-service teachers to viewpoints and beliefs about EfS that diverged from their own, and the post-interview reflective activities supported a more open consideration of a range of interpretations and practices.

The SBTE and I have some different views on implementing EfS as a cross-curriculum priority but this is helpful for my learning to have a SBTE that does things differently than what I would have imagined (PST35).

I learned that I need to be more aware that other people can have strong opinions on issues that may not be the same as my own. This was hard to acknowledge at first but once I reflected on the conversation I felt more at ease with their opinions (PST2).

Thirdly, many pre-service teachers recognised that the formal interview ensured conversation about professional practices that may not have otherwise occurred. They were appreciative of the opportunity to learn from experienced teachers; for some pre-service teachers, the interview was an inspiring exchange. There was recognition of the importance of professional dialogue in terms of its potential to provide opportunity to share and enhance knowledge and practice.

You are looking closely at the inner-workings of a practicing teacher's ideas and knowledge, which is extremely interesting, especially for a pre-service teacher (PST40).

I can now see the value of this process as it facilitated dialogue that would otherwise not have been raised between my SBTE and I (PST33).

The interview process was enlightening… a powerful process of enabling professional discussion (PST31).

When I approached the SBTE they were very willing to participate which made me feel grateful and excited about them sharing their knowledge… Through sharing knowledge, teachers collaborate and take steps to improve their professional practice (PST30).

I found that by engaging in this conversation I was learning valuable knowledge from a colleague that has experience in this field; knowledge that I will be able to use within my own teaching career (PST11).

At their most transformative, pre-service teacher reflections were forward looking when discussing the benefits of engaging in professional dialogue:

I realised that this semi-formal collaboration allowed me to learn from a pedagogical expert. Like Benner (1984) suggests, beginners require support while they generate their own experience. I now think that new teachers could use such structured modes of professional conversation with more experienced colleagues to review and discuss their understandings, as well as to consider alternate perspectives (PST26).

This provided me with an example of what a conversation may be like between teachers, especially in each year level where teachers organise regular meetings… My interview gave me insight into the importance of working in partnership with other teachers… Involvement in the interview provided me with knowledge on why communication, negotiation, time management, conflict resolution and problem solving are necessary to contribute effectively in a professional team (PST10).

In summary, the benefits of engaging in professional dialogue for pre-service teachers included learning teacher researcher skills; gaining insight into teaching practices and perspectives related to EfS, including those which diverged from or challenged their own ways of thinking and doing; and recognising its potential to enhance professional knowledge and practice and collegial relationships and collaboration in future contexts.

Discussion

Planning, initiating, participating in and reflecting upon professional dialogue proved to be professionally challenging yet stimulating for the pre-service teachers of this study. The task allowed them opportunity to gain insight into teacher perceptions and understanding of curriculum developments, and implementation in classroom practices and school initiatives, through structured professional dialogue that otherwise would not have occurred. While interviewing is a skill that improves with practice, the interviewer weaknesses that were reflected upon by participant pre-service teachers, such as overreliance on closed questions and rushing to the next question instead of probing or pausing for interviewees to expand upon responses, can be avoided largely through development of interviewer and oral communication and listening skills. Further, an even stronger rationale based on the Australian Professional Standards for Teachers (AITSL, 2012) needs to be communicated via the task description to support pre-service teachers to purposefully engage in assessment that potentially could be viewed as peripheral to the core planning and lesson implementation activities of the practicum. It is important to highlight to pre-service teachers that professional learning through engagement in research is an *expectation* of 'lead' and 'highly accomplished' teachers (see Standard 6.2, Table 1) and that this assessment, situated in the teaching–research nexus, builds knowledge and skills that are directly related to enhancement of teacher practice and student outcomes.

Teachers	Lead	Highly accomplished	Proficient
6.2 Engage in professional learning and improve practice	**Initiate collaborative relationships to** expand professional learning opportunities, **engage in research**, and provide quality opportunities and placements for preservice teachers.	**Plan for professional learning by accessing and critiquing relevant research,** engage in high quality targeted opportunities to improve practice and offer quality placements for preservice teachers where applicable.	Participate in learning to update knowledge and practice, targeted to professional needs and school and/or system priorities.
6.3 Engage with colleagues and improve practice	**Implement professional dialogue within the school or professional learning network(s)** that is informed by feedback**, analysis of current research** and practice to improve the educational outcomes of students.	**Initiate and engage in professional discussions with colleagues in a range of forums** to evaluate practice directed at improving professional knowledge and practice, and the educational outcomes of students.	**Contribute to collegial discussions** and apply constructive feedback from colleagues to improve professional knowledge and practice.

Table 1: Australian Professional Standards for Teachers (AITSL, 2012) descriptors for engagement in professional learning

While we uphold the interview as a form of 'guided' professional dialogue, findings from this study have potential implications for promotion of teacher engagement in professional learning through collegial discussions which, along with research, is an expectation across the professional lifespan, as seen in standards descriptors for 'lead', 'highly accomplished' and 'proficient' teachers (Standard 6.3, Table 1). Themes from pre-service teacher reflections suggest that contributing to collegial discussions is enhanced when participants feel confident about their knowledge, understanding and capabilities in the topic area or, at least, are well prepared for professional engagement (e.g., an outline of discussion topics or questions is provided to participants in advance). Further, adequate time for collegial discussion and rapport between participants emerge as enablers. Demands of immediate and

multiple tasks on teachers and insufficient structural and social supports in schools have been identified in the literature as constraints on professional dialogue (Horn & Little, 2010).

While it is acknowledged that the supervising teachers in this study were attending to the demands of the first week of a new school term, as well as the needs of their newly assigned pre-service teachers, according to Westheimer (2008), "too few schools create the conditions where learning from colleagues might be possible" (p. 756). Further, Westheimer (2008) posited that, "too few teachers are adequately prepared to learn from one another; and teacher education programs do not always prepare future teachers to also be future *learners*" (p. 756). In the context of delivery of pre-service teacher education programs, the Queensland teacher registration authority pointed to enhanced opportunities for "*extended* conversations between pre-service teachers, school-based staff and university-based staff" on account of a recent strengthening of partnerships between universities and schools (QCT, 2012, p. 25). The QCT (2012) observed that, "in these conversations, theory and research enrich and extend the range of practices considered in designing pedagogy and curriculum units, and in turn, as the pedagogy is implemented, new insights recursively loop back to the transformation of theory and research" (p. 25). In the same vein, there is possible opportunity in a revisioning of the assessment task of this study to, in the first instance, "enrich and extend the range of practices considered" in the practicum.

It is noteworthy that the participant pre-service teachers had undertaken a foundational subject in sustainability in the first year of their studies, wherein they explored sustainability issues and underlying principles and strategies in learning for sustainability. Further, as preparation for the task, they had sourced and reviewed sustainability policy documents and classroom resources. In contrast, many supervising teachers had not yet participated in professional development relating to sustainability, on account of its relatively recent prioritisation in the Australian national curriculum. In future iterations of the task, there may be opportunity to better promote dialogue between pre-service and supervising teachers by not positioning the activity as and making explicit reference to 'an interview'. For some supervising teachers, reference to an 'interview' seemingly implied that they had to have knowledge and expertise in EfS for the activity to be worthwhile or successful. Recall that a number of supervising teachers directed pre-service teachers to interview other staff members who were perceived to be 'experts' or at least more knowledgeable than themselves in the area. Replacing 'an interview' with reference to 'professional dialogue' may promote a more equal exchange of knowledge, skills and ideas – akin to the dialogue between supervising and pre-service teachers which typically takes place in planning conversations. In fact, dialogue about sustainability may serve as a platform for incorporation of sustainability in practicum lessons or units, affording opportunity for pre-service teachers to not only "engage in practice as it is presented to them (a manifestation of the identity of the experienced teacher)" but share future developments in practice, "in a way that reflects their own identity" (Welsh & Dehler, 2004, p. 21).

It was also apparent from pre-service teacher reflections that, in some interviews, pre-service teachers were exposed to beliefs and practices that diverged from their own, creating tensions that presented opportunity for professional learning. As highlighted in the literature, knowledge and practice can be substantially enriched or transformed through professional conversations that explore presuppositions, ideas, beliefs and feelings (Cochran-Smith, 2003; Earl & Timperley, 2009). For one pre-service teacher, being confronted with divergent perspectives was in their own view "helpful" for their learning (PST35); another found the differences "hard to acknowledge at first" but "felt more at ease" after having engaged in reflection (PST2). While Horn and Little (2010) also identified issues of difference and disagreement as a

constraint on professional dialogue, engagement in reflective processes can support more open consideration of differing viewpoints, and transformative learning wherein "sets of fixed assumptions and expectations (habits of mind, meaning perspectives, mindsets)" are made "more inclusive, discriminating, open, reflective, and emotionally able to change" (Mezirow, 2003, p. 58).

In addition to 'reflection-on-action' (Schön, 1987) as a process to facilitate transformative learning, it is recognised that skilled practitioners are able to critically reflect on assumptions and restructure strategies whilst *in* the process of action in order to achieve enhanced outcomes (Cunliffe & Easterby-Smith, 2004; Schön, 1987). The need for reflexivity in the profession was realised by one pre-service teacher of this study, who communicated that the assessment task promoted understanding of why communication, negotiation, conflict resolution and problem solving are necessary skills to contribute effectively to professional teams (PST10). Emphasis on reflexivity and 'reflection-on-action' (Schön, 1987) resonates with Darling-Hammond and colleagues' (2007) and Ball and Cohen's (1999) call for an approach to teacher education wherein the goal is to promote the capacity to inquire and learn *in* and *from* practice.

While ongoing professional learning is embedded within the Australian Professional Standards for Teachers (AITSL, 2012), in an investigation of feedback on pre-service teachers' professional experience reports—in the standards domains of professional knowledge, practice and engagement—Leonard (2012) found that supervising teachers' feedback was limited in terms of the professional engagement domain and, in particular, little or no feedback was provided to pre-service teachers on their capacity to: (6.1) identify and plan professional learning needs; (6.2) engage in professional learning and improve practice; (6.4) apply professional learning and improve student learning. Leonard (2012) concluded that:

> This suggests a discourse that these engagement behaviours are part of acting 'professionally,' but there is virtually no evidence of a belief that such behaviours are actually related to student learning. This lack of connection is in contrast to the resounding message in many studies that engagement behaviours are perhaps the most important thing teachers can do to improve student learning. (p. 58)

This study reveals positive benefits of pre-service teachers engaging in professional dialogue. There is opportunity to refine the assessment task at the third year level and constructively align fourth year (and earlier) practicum requirements, potentially with input from supervising teachers in partner schools. Ure et al. (2009) call for greater collaboration and communication between school-based teacher supervisors and university staff, as well as further research examining how supervising teachers can engage with pre-service teachers in the practicum to provide co-constructed experiences that are framed by professional knowledge and dispositions. Promoting the requisite knowledge, skills, attitudes and values for engagement in teacher research, professional dialogue and reflection, both through university- and practicum-based components, is essential in exiting graduates who are prepared to be future learners and who are convinced "of the power of teachers learning from and talking to each other" (Hattie, 2011, p. 116). As seen in Table 1 (Standard 6.2), in order to improve the educational outcomes of students, 'lead' teachers are expected to implement professional dialogue, within schools or professional learning network(s), which is informed by feedback, analysis of current research and practice. Indeed, according to Ingvarson (2005), "the kinds of change that really matter in education are not structural ones but those that build teacher capacity and professional culture" (p. 63).

Conclusion

The assessment task of this study is of value to teacher education programs as it promotes in pre-service teachers *learning how to learn* – from others, as well as, in and from practice. Guided professional dialogue enabled the participant pre-service teachers to gain insight into practices and perspectives related to EfS, including ways of thinking and doing that diverged from, and challenged, their own. Some pre-service teacher reflections were forward-looking, identifying how professional dialogue had the potential to enhance professional knowledge and practice and collaboration in early career contexts. At their most transformative, pre-service teacher reflections revealed a deeper understanding of the knowledge and skills—beyond planning and teaching—such as negotiation, conflict resolution, problem solving, reflectivity and reflexivity, which are essential in constituting their professional selves.

This study responds to an identified gap in the literature. Ure et al. (2009) highlighted how little is known about the relationship between the placement experience and the broader notion of professional learning. Expanded learning opportunities in both the placement- and university-based components of teacher education programs would see pre-service teachers sharing knowledge, ideas, beliefs and strategies in diverse face-to-face and online forums, initiating professional dialogue with teachers and staff within school communities, and enlisting and participating in communities of practice and professional associations concerned with particular areas of interest or identified learning needs. Learning will be more productive if it is "reflective, intentional and collaborative, practices which may not come naturally" but which can be developed and will lead to teacher graduates exercising responsibility and agency in their learning within formal and informal contexts and over the course of the professional lifespan (Black, McCormick, James, & Pedder, 2006, p. 126).

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