Australian Journal of Teacher Education

Volume 33 | Issue 2 Article 2

5-2008

Quality Teaching & Professional Learning : Uncritical Reflections of a Critical Friend

Tony Yeigh
Southern Cross University

Follow this and additional works at: https://ro.ecu.edu.au/ajte

Part of the Teacher Education and Professional Development Commons

Recommended Citation
Yeigh, T. (2008). Quality Teaching & Professional Learning : Uncritical Reflections of a Critical Friend. *Australian Journal of Teacher Education, 33*(2).
http://dx.doi.org/10.14221/ajte.2008v33n2.2

This Journal Article is posted at Research Online.
https://ro.ecu.edu.au/ajte/vol33/iss2/2

Quality Teaching & Professional Learning: Uncritical Reflections of a Critical Friend

Tony Yeigh
School of Education/Centre for Children & Young People
Southern Cross University

Abstract: *This paper discusses how the acquisition, development and exercise of knowledge and skills in relation to quality teaching (QT) practices have impacted upon professional learning within a number of QT inquiry projects. The emphasis is upon how the major challenges and limitations of professional learning have occurred within the social context of collaborative inquiry, and how these challenges and limitations helped shape the professional learning. The paper offers an interpretation of the methodologies and evaluative aspects of teacher professional learning as these have interacted with QT. From this perspective a metacognitive model of professional learning is proposed, aimed at linking QT evaluation to professional learning. This model incorporates qualitative and quantitative inquiry principles, for the purpose of framing a sustainable approach to professional learning that compliments individual differences in pedagogy as well as collaborative principles of action learning.*

Introduction

Teachers are constantly required to extend and update their skill levels. Generally this occurs via *professional learning* activities, which, according to the thesaurus of the Educational Resources Information Centre (ERIC) database, are activities designed to enhance professional career knowledge and abilities. An underlying assumption of this paper is that an authentic means for achieving this learning resides within the existing *Quality Teacher* (QT) framework (NSWDET, 2003a), a framework based on the *Australian Government Quality Teacher Programme* (AGQTP) model of pedagogy (see http://www.qualityteaching.dest.gov.au). This model connects student learning to the quality of pedagogy the teacher brings to the teaching/learning process, by positing that student learning outcomes are largely the product of the instruction they receive.

Quality Teaching and Action Learning

The AGQTP model of pedagogy has been linked to professional learning through a variety of school-based projects underpinned by *action learning* inquiry. Action learning is a process of self-reflective, self-critical inquiry that seeks to improve the practitioners' knowledge of teaching, their practice of teaching, and the learning outcomes associated with the teaching (Killen, 2003; Stringer, 1996). A key characteristic of action learning is that it encourages the practitioner to diagnose their teaching within an experimental context involving new pedagogical tools and/or skills (Ewing, 2002; NSWDET, 1997). Action learning thus seeks to increase the quality of teaching by scaffolding for the learning of new

ideas, strategies, perspectives, and insights related to the development of the teacher as a professional practitioner.

Action learning is innately collaborative. It involves working and learning with and from others to explore possible ideas and solutions, asking insightful questions that stimulate new ideas and actions, and reflecting on these (Senge, 2000). Discussion and reflection are then used to inform future decision making, with the express purpose of identifying weaknesses or areas of practice designated for professional improvement. This process takes place in a cyclic program designed to improve the quality of practice over time. In this respect action learning provides an effective approach to professional development, driven by the teacher's professional and personal ownership of the learning process.

One of the clear aims of action learning is to ensure that classroom pedagogy embodies the highest possible quality. Defining and describing what constitutes quality in terms of specific teaching practices has been the source of much discussion and debate (Ausubel, 1977; Bruner, 1990; Phillips, 2000; Ramsey, 2000; Vinson, 2002). Yet a notion which has endured in this respect is that a quality pedagogy is one that exhibits productivity in terms of increased learning outcomes for students, as well as ongoing professional learning for teachers (Newmann et al, 1996; NSWDET, 1997; 2001). Thus a link exists between action learning as a process and professional learning as an outcome, based on the notion that a quality-driven, productive pedagogy can be used to provide both better student outcomes as well as improved practitioner insights.

The AGQTP Model of Pedagogy

The AGQTP model of pedagogy as discussed here (NSWDET, 2003a; 2003b), proposes a set of three interdependent pedagogical dimensions aimed at synthesising and expanding the key characteristics of a productive pedagogy. This model assumes that the nature and quality of pedagogy represent the core business of teaching, and on that basis proposes a model of quality teaching (QT) aimed at improving both student learning outcomes and the professional learning of the teacher. The AGQTP model of pedagogy is composed of three interlinked pedagogical dimensions: *intellectual quality* (IQ), *quality learning environment* (QLE), and *significance* (SIG) (NSWDET, 2003a; 2003b). The IQ dimension primarily relates to pedagogical elements that promote deeply cognitive, challenging, reflective, and generally more considered student learning. In this sense IQ promotes a constructivist approach to pedagogy, significant in that research suggests that constructivism scaffolds for complex cognitive processing, greater self-direction, and increased engagement on the part of the learner (Bruner, 1990; Fosnot, 1993; Jonassen, 2000; Phillips, 2000). The QLE dimension emphasises supportive classroom structures and positive expectations as a means to more productive learning outcomes, thus promoting positive classroom relationships and more equitable student outcomes. The SIG dimension connects the learning to ownership, and to the student's growing sense of identity, by way of elements that seek to link classroom learning to the student's own background as well as to the larger, more diverse world outside the school. Significance thus promotes inclusivity within a context of cultural diversity.

Within the AGQTP model, each of these dimensions contains six pedagogical elements, with each element representing a core expression of the dimension to which it belongs. Although it is not within the scope of this paper to comprehensively interpret or deconstruct the AGQTP model of pedagogy, the model is summarised in table 1, where each element is delineated briefly in terms of its essential pedagogical characteristics.

Intellectual Quality		Quality Learning Environment		Significance	
Element	**Characteristic**	**Element**	**Characteristic**	**Element**	**Characteristic**
Deep Knowledge	Teacher clearly articulates core concepts of the lesson or unit of work	**Explicit Quality Criteria**	Teacher articulates explicit outcome criteria for student assessment	**Background Knowledge**	Teacher explicitly builds students' background knowledge into the lesson
Deep Understanding	Students clearly articulate their understanding of core concepts	**Engagement**	Students remain on-task and variously display sustained interest and attention in the lesson or unit of work	**Cultural Knowledge**	Teacher utilises diverse cultural knowledge to discourage stereotypic thinking and to authenticate cultural diversity
Problematic Knowledge	Students led to uncover the knowledge construction process involved in learning	**High Expectations**	Teacher communicates a 'relentless expectation' that students will work to their best, and encourages them to take conceptual risks	**Knowledge Integration**	Teacher requires students to integrate core concepts from various subject areas in order to promote transfer of learning
Higher-order Thinking	Students differentiate, critique, and judge the information (think Bloom's Taxonomy)	**Social Support**	Teacher creates a positive learning environment, clarifies peer support structures, and promotes mutual respect within the classroom	**Inclusivity**	Students are encouraged to examine the concepts of inclusion & exclusion. Teacher publicly values different cultural & social points of view
Metalanguage	Students taught the contextual and symbolic functions of language…the relationship between language & conceptual representation	**Students' Self-Regulation**	Students demonstrate initiative by accepting responsibility for their learning and for the consequences of their behaviours	**Connectedness**	Students examine why they are studying particular issues, and are encouraged to extend their learning outside the School
Substantive Communication	Students use various forms of communication (oral, written, iconic) to elaborate and discuss the learning	**Student Direction**	Students are given options concerning the learning activities & assessment criteria	**Narrative**	Students encouraged to variously personalise their learning and thereby construct personal meaning

Table 1: A Summary of the AGQTP Model of Pedagogy.

It is the position of this paper that, within an action learning framework, the AGQTP model of pedagogy provides a means by which quality teaching can be explored, implemented, and evaluated at various levels of engagement. Furthermore, that, by such exploration and engagement, the model provides an authentic basis for sustainable professional learning. Because of this, a more detailed discussion of the relationship between QT and professional learning is in order.

Quality Teaching and Professional Learning

It is important to note that professional learning in relation to QT is not achieved by adopting a simplistic formula of training and development or by focussing chiefly upon student outcomes (Gage, 1978, Hill & Rowe, 1998). Rather, it requires an innovative approach that addresses the role and function of evidence-based research as a means of understanding collaboration, interaction, and the construction of shared and individual meaning (Fosnot, 1993, Marshall, 1996). This is a crucial perspective because it changes the focus for professional learning; from learning as building a repertoire of instructional strategies to learning as building sensitivity to dynamic interaction and self-monitoring (Hatton, 2001, Kalantizis, Cope & Fehring, 2002). In turn, this means that evaluation of the learning needs to be contextual and dependent, accepting of multiple perspectives, admitting of a broad range of tasks, and seeking critical appraisal from a variety of both goal-sharing and goal-free examiners. A core assumption of this discussion is that at the heart of every QT inquiry project lays the desire to increase practitioner sensitivity to the dynamics of reciprocity, in order that the individual teacher is enabled to develop a sense of professional identity in relation to the collaborative ideas and attitudes that drive the inquiry. The primary goal of this paper is to offer a personal discussion of how this sensitivity has been explored, evaluated, assimilated, and re-interpreted across a variety of different QT inquiry projects.

Focus For the Discussion

This paper reviews three different strategies designed to facilitate professional learning within the context of a QT inquiry project: focus-group brainstorming, observational coding, and self-reflective journaling. These strategies have been amalgamated from six different research-based QT inquiry projects with which the author was involved as a "critical friend" during the period 2003 – 2007. These particular inquiry strategies have been selected for discussion because, taken together, they provide a coherent, action learning framework for evaluating and interpreting the learning which has occurred.

Altogether, twelve schools are represented within these six inquiry projects. One project included a group of six small primary schools (each with less than 75 students), nested together in a single, collaborative inquiry. The focus for this inquiry was to expand the ability of the teachers to design and evaluate new units of work based on the AGQTP model of pedagogy, while at the same time improve student ICT skills. A second inquiry involved a single, large primary school (student population @700), in which 11 participating teachers focussed on how to integrate their teaching skills across all three stages of the school's student population. Yet another primary school inquiry (student population @140) focused on learning how to use the AGQTP model of pedagogy to improve science teaching.

Several secondary schools are also represented within the cohort of schools for this discussion. The first of these was a rural high school (student population @450), which used their inquiry project to explore how to increase engagement and motivation for their year-9/10 students. The second high school (student population @1200) was urban, and had as its goal an increase in demonstrated literacy amongst its year-7/8 students. The final high school (student population @900) sought to use QT as a means for developing greater ICT innovation within the general teaching staff. Although each of these inquiry projects has been unique, they have in common a shared interest in professional learning as the basis by which to expand their pedagogical knowledge, confidence, and ability. As well, each inquiry has viewed professional learning as a means of increasing academic engagement and/or outcomes for their students.

Evaluating the Quality of Professional Learning

According to Jonasson (2000), and Kalantzis, Cope, and Fehring (2002), the evaluation of professional learning can occur at various levels, including self-evaluation, collaborative evaluation, and meta-evaluation. Self-evaluation leads the researcher toward new conceptions of professional identity as an aspect of self-concept. This is primarily a reflective process, incorporating personal insights with professional examination to develop a coherent picture of the self as practitioner. Collaborative evaluation involves an element of critical social examination. Here the practitioner liaises with her or his colleagues to develop insights into how their various roles interact to form layers of interdependent and expanded meaning. In collaborative evaluation, a sort of distributed knowledge about the purpose, goals, and outcomes to be associated with the professional learning is developed by all members of a shared inquiry. This knowledge then provides a larger context within which the more self-regulatory, metacognitive elements of learning take place. In meta-evaluation, the collaborative and individual elements of evaluation are combined to form an overall interpretation of the learning that is occurring. The focus of meta-evaluation is on the merit or quality of the inquiry, that is, how well it has facilitated overall professional learning. The inquiry strategies discussed here were evaluated within this multi-level approach. It is felt that this approach enriched the perspectives and insights gained by the participating teachers.

Review of the Professional Learning Processes

Within the action learning approach used in these inquiries, professional learning took place in phases, not always distinct, but representing cycles of observation, reflection, planning, and acting (cf Ewing, 2002; Stringer, 1996). It is important to note that, generally, it is the school's own inquiry focus and participant context that determine which strategies correspond most appropriately to these cycles. The strategies reviewed here: focus-group brainstorming, observational coding, and self-reflective journaling, were all chosen because they displayed a high degree of efficacious feedback concerning professional learning across all the participating schools. A discussion of how each of these strategies was implemented follows.

Brainstorming and the Development of Collaborative Concepts

The initial aim of these inquiries has consistently been to establish a shared conceptual understanding of the notion of QT. In my experience as a critical friend to these inquiries, it is imperative that the inquiry group develop its own set of principles relating to this notion, and then link these back to the AGQTP model of QT as the pedagogical basis of the inquiry. This is essentially a constructivist approach involving both individual and collaborative knowledge building. One way of entering into it is to set up a focus-group and brainstorm the key terms and concepts relating to quality teaching. A key characteristic of brainstorming is that the generation of ideas is free-flowing, not attenuated by attempts to judge the validity of individual ideas. Thus, once the brainstorming session is in progress its best to simply record the flow of ideas uncritically. However, to begin this process, I have found it generally helpful to ask the group to reflect on their own ideas about quality teaching by using probing questions, such as, "If I asked you to think of a 'quality teacher', who might that be?", "What

made their teaching 'quality', as opposed to other teachers you might think of?", "What sorts of things did that teacher do?", "What did they NOT do that also makes you think of them as being a 'quality' teacher?", "What sorts of attitudes did they display?", and "How did their teaching make you feel as a learner…and why?". These types of questions facilitate the overall group's discovery of how individual members understand QT. In addition, however, it also establishes the beginnings of an agreed-upon, generalised construct of QT at the more collaborative, whole group level.

Once initial ideas about QT begin to take shape, a second cycle of conceptual development occurs, where the use of visual aides such as mind-mapping, flow charts, or concept-mapping can be used to refine the discussion and guide it into a more specific pedagogical framework. Here focus questions may continue to be used, but will need to shift somewhat, to prompt the group to express their ideas in relation to specific aspects of classroom practice. For example, "What sorts of principles were involved in that teacher's instruction?", "What was her or his attitude toward students?", "How did the teacher get students to engage with their work?", "How were the students challenged to think deeply about what they were learning?", "How were basic principles such as inclusivity and mutual respect implemented in the classroom?", "Did the teacher get her students to understand the way knowledge is constructed?…How?", and "In what ways did the teacher get students to own the learning?". In shifting the discussion to consider QT from a more pedagogical perspective, the knowledge being constructed begins to incorporate elements from the AGQTP model. The operative principle here is to translate elements from the AGQTP model into questions that further the conceptual inquiry along QT lines. In this manner the focus-group is enabled to develop it's own understanding of a quality pedagogy, and at the same time have that understanding embedded within the more generalised principles of pedagogy as expressed by the AGQTP model. As familiarity with the AGQTP model of pedagogy increases, the characteristics of the construct become increasingly aligned with the model itself. This is a refining process, and will continue across the entire inquiry, as is the nature of professional learning within an action learning framework.

An example of how this collaborative process has been used to develop a common inquiry understanding is shown in figure 1. This figure was constructed from a one hour brainstorming session around the theme, "What makes a good teacher?" The construct was developed in conjunction with a group of eleven primary teachers, and occurred prior to any formal learning about the AGQTP model of pedagogy itself. Note, however, that many of the ideas expressed in the construct can already be related to specific elements of the AGQTP model. This figure thus represents an important initial aspect of professional learning; the development of an agreed concept of QT. The next phase entails the exploration of this concept.

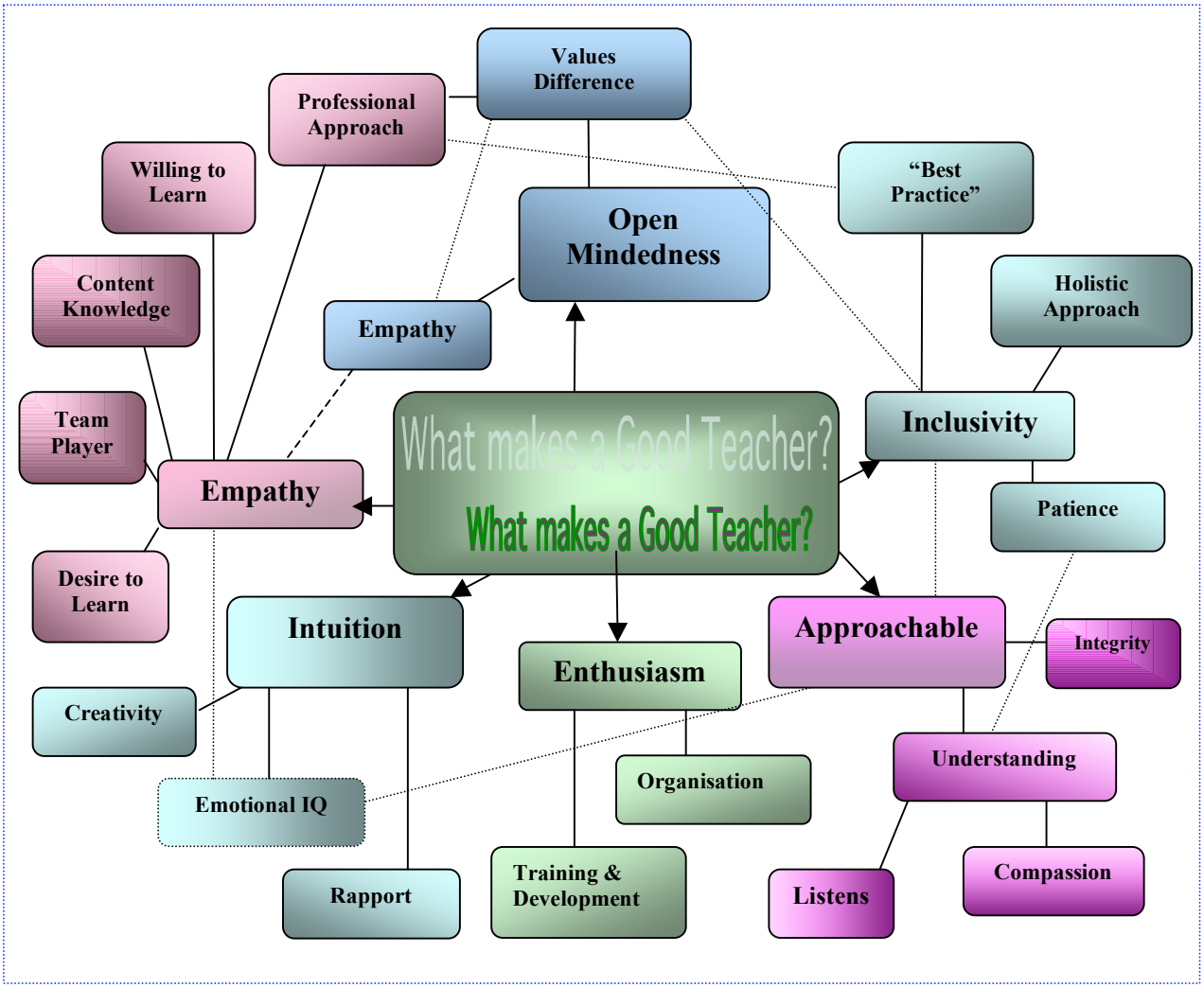

Figure 1: Brainstorm Output: "What Makes a Good Teacher?"

Coding and the Evaluation of Classroom Pedagogy

When an inquiry group wishes to explore its concept of QT, it needs to determine how, and how well, members of the learning team are engaging with the concept at the level of classroom delivery. To do this the teachers need to apply the pedagogy to practice via the development of units of work, representing the next cycle of learning to occur in an inquiry. They are then positioned to explore engagement by observing the teaching of these units at the classroom level. From personal experience, the observational process seems to work best when done in collaborative pairs, with perhaps a critical mentor as well, and using either a stage or Key Learning Area (KLA) focus to conceptualise how the QT elements are to be represented in the units of work. A critical feature of this process, consistent across the experienced inquiries, has been how the engagement is evaluated.

One way to evaluate engagement is to have the inquiry members develop criteria by which formal and/or informal classroom observations can be made. A common approach to this across these inquiry projects has been via the use of scale-based *coding*. The AGQTP guidelines (NSWDET, 2003b) suggest that engagement can be evaluated by recording observational notes as to how each of the pedagogical elements is noticeable in a lesson, and by also assigning the element a numerical value (generally along a Likert-type scale). As an

example, table 2 provides a simple method of coding for *problematic knowledge* (an element in the IQ dimension). In this example the observation is meant to record specific information concerning how, and to what degree, the elemental characteristics of problematic knowledge (communicating multiple perspectives and/or solutions for the learning - i.e., how the learning is socially constructed) are noticeable during the lesson. The numerical values (1 – 5) represent the observer's estimate of how effectively the teacher's instruction encouraged students to address these elemental characteristics in the learning (NSWDET, 2003a).

Problematic Knowledge	1	2	3	4	5
Observation:					

Table 2: Coding template for the IQ element Problematic Knowledge.

This approach to coding combines qualitative and quantitative data in the observation because it records examples and insights as to how the element appeared in the lesson as well as the numerical values assigned. Observational comments are meant to function as a coding rationale, that is, to qualify why the selected value was used. For problematic knowledge, the numerical values are meant to correspond to the following definitions (NSWDET, 2003b):

1. The lesson presents all knowledge as fact and not open to question.
2. The lesson presents some of the knowledge as being open to multiple perspectives.
3. Knowledge is treated as open to multiple perspectives, and seen as socially constructed and therefore open to question.
4. Knowledge is seen as socially constructed and multiple perspectives are not only presented, but explored through questioning their basic assumptions.
5. Knowledge is seen as socially constructed, with multiple and/or conflicting interpretations presented and explored to an extent that a judgement is made about the appropriateness of an interpretation in a given context.

Using these definitions of the numerical distinctions to be made, it is plain that the 'quality' of the teaching that is being addressed here has much to do with the way in which the lesson treats knowledge as being constructed and fluid, rather than as objective and fixed. This approach to evaluating instructional engagement thus highlights the intensely constructivist nature of problematic knowledge as a pedagogical element. It seeks to determine how well the teacher has actively promoted student awareness of the social construction of knowledge, and to use this awareness to form their own judgements about the learning they are experiencing.

A critical aspect of evaluating engagement in each QT inquiry experienced to date has been a concern over the purpose or intention of such coding. In this respect it is important to note that the primary purpose of coding is to raise the practitioner's awareness concerning the pedagogy at work, not to compare or criticise individual teachers or lessons. Coding is about self-evaluation, not comparative evaluation. To this end some teachers have preferred to code

without using a scale, instead simply noting their impressions concerning the presence or absence of a particular pedagogical element, and perhaps describing how the element was manifested and how it seemed to affect student learning. This highlights the point that coding needs to be applied in a non-pejorative manner and within the distinctive nuance of an individual inquiry. When this occurs coding can be a helpful and constructive tool for the evaluation of pedagogical engagement, and thereby be used to stimulate changes in practice.

An example of how, as a critical friend, I have witnessed the use of coding in this manner is displayed in Figures 2 and 3. Note that both figures contain observational recordings relating to the first (figure 2) and second (figure 3) cycles of observations made across a unit of work developed from the AGQTP model. The teachers in this inquiry worked collaboratively, taking turns observing, coding, and discussing the pedagogy with one another. This combined information was then collated into two "snapshots" of how the pedagogy was perceived in practice Note that whereas figure 2 depicts the early pedagogical profile for this group, figure 3 shows how the pedagogy changed as the result of discussion and reflection concerning the initial coding activities. Together these figures depict the dynamic and collaborative evaluation of professional learning as it was occurring (Jonasson, 2000; Kalantzis, Cope, and Fehring, 2002).

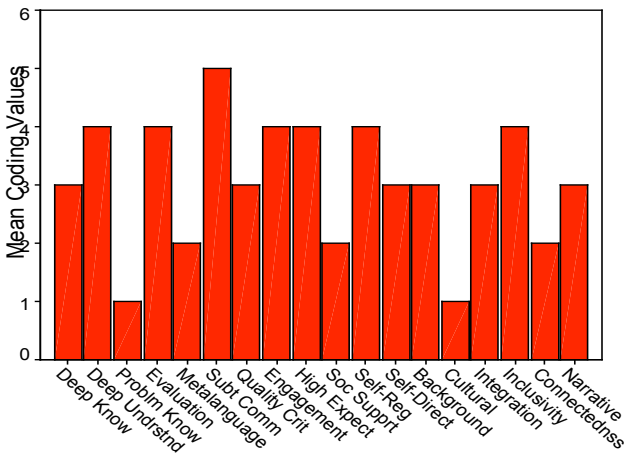

Figure 2: Cycle one coding

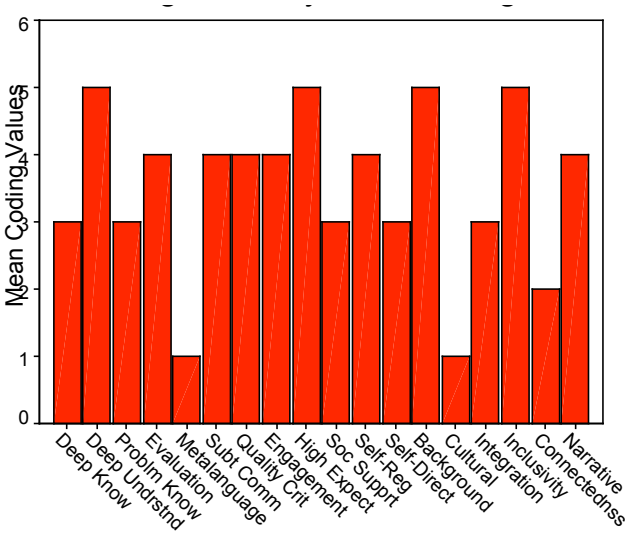

Figure 3: Cycle two coding

Examining these figures can tell us several things about changes that occurred in the pedagogy during this inquiry. For example, while the emphasis on teaching *evaluation* (higher-order thinking) decreased between the two observational cycles, the emphasis on *problematic knowledge* increased. The use of *cultural knowledge* remained fairly stable, yet *substantive communication*, *high expectations*, the use of students' *background knowledge*, and the emphasis on *inclusivity* all increased. Thus overall there were increases in the dimensions of *Intellectual Quality* and *Significance*, with *Quality Learning Environment* remaining fairly consistent. In a statistical sense the significance of these changes cannot be easily ascertained (and, indeed, is not being sought by the inquiry group). However, analysing such changes "in situ" like this does afford the practitioner valuable information to use in reflecting on her or his pedagogy. It is also quite useful in determining whether or not the pedagogy expressed the intended pedagogical emphasis.

Building sensitivity to the various elements of classroom pedagogy is an important aspect of the professional learning that takes place in an inquiry. As teachers become more aware of what the pedagogy looks and sounds like, and how it can be tied to specific learning tasks, the appropriate use of coding can increase their ability to manipulate it purposefully, increasing their professional confidence. When teachers start attending to the use of pedagogy at the instructional level, they also begin thinking about the pedagogy, talking about it, and making conceptual links between the pedagogy and their own skill base. Thus coding can be an effective means of developing professional skill and ability in terms of the teacher being able to progressively manipulate and control the pedagogy. In a professional learning sense this provides content for the reflective processes that extend pedagogical awareness and help to guide the more meta-cognitive learning that also takes place.

Reflective Journaling and Professional Learning

As the teachers become more knowledgeable about the pedagogy they are working with, critical reflection can provide an opportunity to document many important considerations relevant to the QT inquiry. In relation to professional learning, reflection might consider such things as comparisons between earlier and current teaching practices, issues concerning working with a partner and as part of a team, and what worked and what didn't (always important considerations). As well, feelings about the various aspects of participation (i.e., the emotional impact of professional learning) can also supply valuable sources for reflective input. Reflection is, in effect, a narrative of practice, offering information and interpretation concerning the plans, methods, goals and strategies used, student outcomes, the teacher's philosophy of practice, and the impact these have on professional learning.

There are always issues surrounding how reflection is to be used as part of the evidence for learning that has occurred. A common method is to use some form of journaling to compile evidence demonstrating the acquisition, development, and exercise of knowledge and skills in relation to the practice of pedagogy. However, questions have been raised concerning the level of critical depth achievable via the use of journaling (Ewing, 2002; Gage, 1978; Marsh, 2007; Shulman, 1987). In this respect table 3 summarises a five-level framework (adapted from Bain et al, 2002) for reflective journaling. This framework incorporates five interdependent reflective components, designed to structure the reflective process in an innately critical manner. This reflective framework has been used in conjunction with journaling across several of the QT inquiry projects participated in to date.

Reflective Component	Component Characteristics
Reporting	This reflective component simply reports what has happened in the course of being involved in the inquiry project, or what an important issue or incident involved in the inquiry has been perceived to be. It may utilise a minimal description of the incident or issue, or it may give a broader description. The idea is to report with enough elaboration of potentially significant details to allow other teachers to draw independent conclusions about the involvement or insights as these relate to teaching and learning.
Responding	Here the practitioner records responses to the initial reporting component, by making observations, expressing feelings, or asking questions about significant aspects of the situation. The practitioner may simply record her or his feelings in relation to the situation, but its best if they attempt to make a judgment regarding the more obvious aspects of involvement in a lesson, e.g., "I needed more time to plan the lesson", "the lesson was weak in metalanguage", or "I need to find ways to increase student engagement". The main thrust of this component is to pose a question or identify a problem to be investigated further.
Relating	This component attempts to make a connection between the observations made under *responding*, and how these observations link to the author's own skills, experience, and learning with respect to the inquiry. Here the practitioner seeks to highlight his or her own strengths and limitations in relation to personal learning, or perhaps to their current understanding of pedagogy, curriculum content, assessment issues, etc., as well as how these skill-based elements have shaped personal and professional involvement with the inquiry project. The primary goal at this level of reflection is to try and provide a rationale for how & why the teacher's skills have connected them to the project in the specific ways it has.
Reasoning	In this component the practitioner highlights in detail significant factors underlying inquiry involvement, and shows why these are important to understanding the teaching & learning that has taken place. Here the practitioner takes at least one relevant factor from *relating* and analyses it in some depth. For example, questions can be asked about the connections made under relating, such as why a specific skill or experience has proven important in the shaping of involvement and how this has impacted on professional learning, and then logical extensions made concerning what issues this might raise for future professional learning. The point here is to consider the reasons for, and implications of, a specific factor, and how this factor might affect future learning.
Reconstructing	Here the practitioner seeks to develop ideas about how to use the understanding from *reasoning* to reframe or reconstruct future QT inquiry. This may be done by drawing a conclusion about the implications made (in terms of how they will require a change in focus for ongoing professional learning), and then noting how the conclusion can be used to actually plan for future professional learning. The teacher might, for example, consider how the connections between skill or experience and a personal theory of teaching might be impacted upon under different circumstances, how such circumstances are relevant to ongoing development within the QT framework, and how future inquiry might then be re-conceptualised to focus the learning more clearly on those circumstances that will add to or modify the pedagogy appropriately.

Table 3: Overview of the five-level reflective framework for journaling

This approach to reflective journaling is designed to assist the practitioner to think about self-evaluation in relation to the overall goals of professional learning, that is, to link self-evaluation and meta-evaluation. Used in this manner, reflective practice can contribute to the growth of metacognitive awareness as concerns the relationship between classroom practice and professional learning. Building reflective awareness enables the practitioner to forge contextually appropriate insights about the learning that is occurring, and thereby make important conceptual links between professional learning at the individual level and the larger themes of professional learning that relate to the QT inquiry.

A Metacognitive Model of Professional Learning

Pedagogical concept shapes the content of professional learning, and pedagogical awareness shapes the processes by which this content is delivered. Taken together these might be considered the poles of professional learning, with content the vehicle for increasing the teacher's knowledge concerning QT, and process providing the procedures for embedding this knowledge into units of work in authentic, meaningful ways. It is suggested that, within these poles, QT forms a realistic basis for sustainable professional learning. The cyclic, multi-layered approach to professional learning, as discussed here, encourages a gain in confidence and sense of professional identity for the teacher, who is then empowered to re-engage with QT at an invigorated level of understanding. From this perspective, a model of learning – practice – reflection – reconstruction is proposed, as presented in figure 4. The elements of this model are threefold: the collaborative development of pedagogical concepts; the practice of pedagogical awareness through engagement; and critical reflection on the learning process in terms of how this might relate to future development.

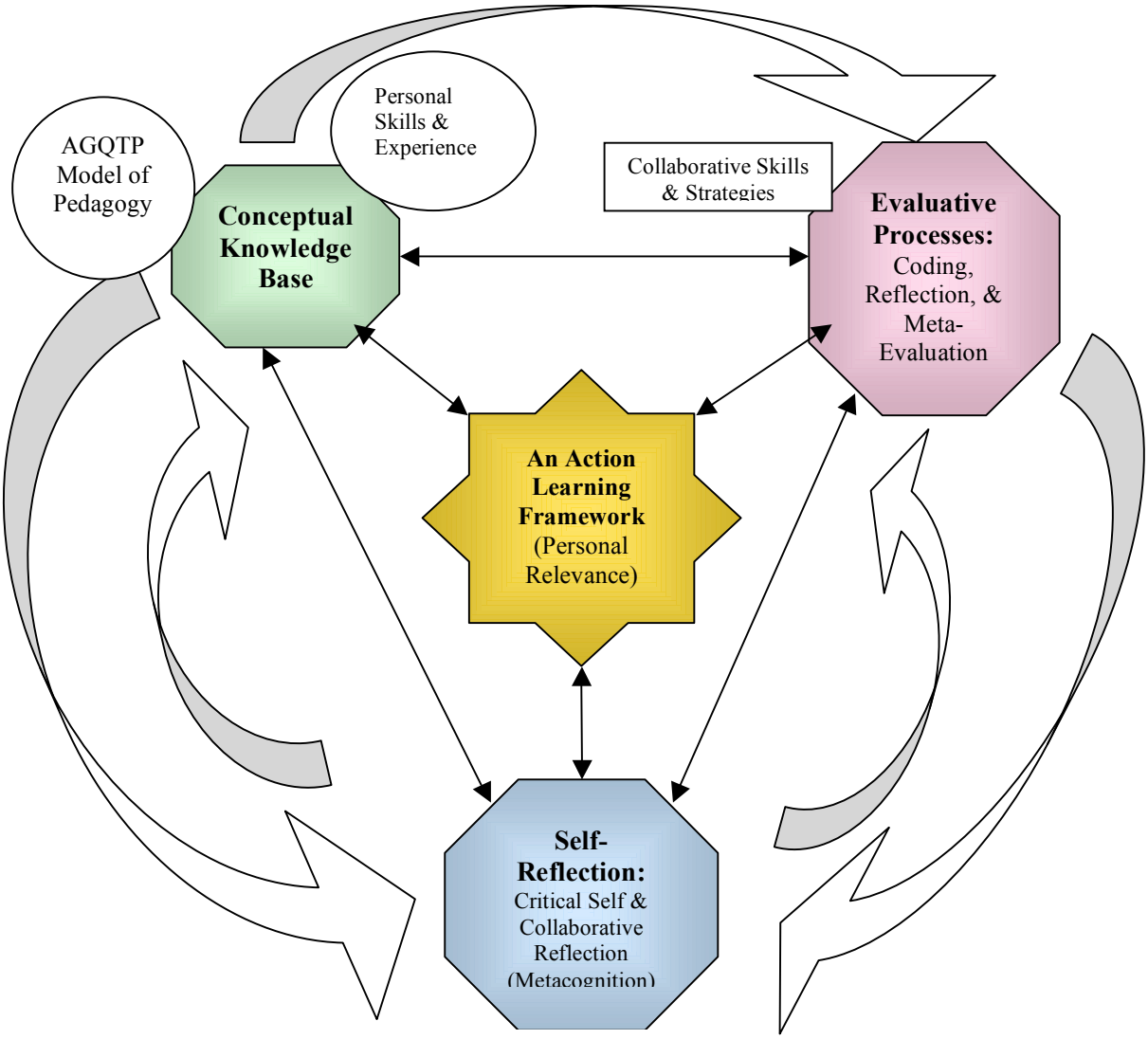

Figure 4: Metacognitive model for sustainable professional learning

At the heart of this model lies the notion of critical reflection, which provides the conceptual framework within which the teacher's knowledge and beliefs about pedagogy can be tested and then regulated, to maximise the benefits of the inquiry (cf Hill & Rowe, 1998; Perkins, 1995). This aspect of professional learning continually transforms both content and process via a set of reciprocal, interactive relationships that shape the learning according to the restructuring of ongoing cycles of inquiry. In effect these cycles represent an action learning ecology, in which transactions between the individual, the QT pedagogy, and the processes involved in professional learning are all interconnected. This is an intensely constructivist understanding of professional learning, in that it is critical reflection that provides the conceptual basis for ongoing self-awareness and knowledge building. In this respect it is ultimately *metacognition* - self-awareness of one's thinking processes and how to adapt these processes to a situation or context - that shapes the professional learning cycles. Metacognition encourages critical evaluation of content and process at both the individual and collaborative levels. It thus plays an executive role in uncovering the professional themes and learning issues that arise in professional learning, linking together the processes of conceptual understanding, evaluation, self-reflection, and action learning (C/F Hennessey, 2003).

In the proposed model, conceptual understandings are used to develop a common professional 'language' (an inquiry metalanguage) by which groups of teachers can discuss their personal skills and experiences in relation to the pedagogy involved, and to develop the methods and strategies to be used in the QT inquiry. Later, this same language is used to interpret and critique the learning outcomes. Evaluation, involving three levels (self-evaluation, collaborative evaluation, and meta-evaluation), uses planning, observation, and reflection to develop the collaborative skills and strategies of the teachers, with a view to projecting these skills and strategies toward a future learning goal. Meta-evaluation refers to how the practitioner is interpreting the overall professional learning that is occurring, that is, with respect to both their own learning and to the learning of the larger group. Meta-evaluation requires that a type of metacognitive or overarching understanding be sought concerning the relation of the individual learner to the larger issues involved in the inquiry. This creates an intensely dynamic context within which the professional learning occurs, one in which the places of the individual and the group are held in tension, with unresolved differences yet also with co-created knowledge and interdependencies. This model thus posits sustainability as the product of a participatory framework in which personal perspectives exist within the wider range of diverse understandings, goals, and values relating to the larger vision of learning being developed by the QT inquiry.

Conclusion

This discussion has sought to demonstrate that the relationship between QT and professional learning is strongly influenced by the collaborative and reflective cycles associated with action learning. Within an action learning approach, collaborative inquiry supports professional learning because it fosters personal relevance within a holistic context, thereby connecting the individual teacher to the larger vision of learning across various levels of engagement. This concept places the teacher's own learning processes and capacity for change as the focus for self-reflective inquiry, that is, at the centre of the relationship between theory and practice. However, this centre does not exist in a vacuum. Rather it exists in tension with the unity of the larger, collaborative vision of QT that is developed within the inquiry. Thus, in the proposed model of professional learning, the relationship between theory

and practice is viewed as dialectic, derived from the diversity of individual teachers as this diversity exists within the unity of a collaborative inquiry.

On this basis a metacognitive model for ongoing professional learning has been suggested. In this model, the meaning that is derived from personal relevance becomes the framework by which the larger processes relating to more generalised teaching principles are understood. The concept of ownership is central to this model of professional learning, with metacognitive awareness providing the means by which discriminations are made for future sustainability and ongoing professional growth. Sustainability itself is largely dependent upon a systematic and coherent process of evaluation, as this is used to promote metacognitive awareness. In terms of professional learning, this involves the use of self-reflective practices as the primary means of empowering the learning. As education seeks to meet the needs of the twenty first century, the imperative to develop and extend the quality of classroom pedagogy as an aspect of professional learning may well prove crucial to the sustainability of professional growth. It is the aim of this model to support such efforts.

References

Ausubel, D. P. (1977). The facilitation of meaningful verbal learning in the classroom, *Educational Psychologist, 12*, 162-178.

Bain, J. D., Ballantyne, R., Mills, C., and Lester, N. C. (2002). *Reflecting on practice: Student teachers' perspectives*. Flaxton, Qld: Post Pressed.

Bruner, J. S. (1990). *Acts of Meaning*. Cambridge, MA: Harvard University Press.

Byrnes, J. P. and Fox, N. A. (1998). The educational relevance of research in cognitive neuroscience. *Educational Psychology Review, 10*(3), 297-342.

Ewing, R. (2002). Framing a professional learning community: An Australian case study. *Curriculum Perspectives, 22*(3), 23-32.

Fosnot, C. (1993). Preface. In J. G. Brooks and M. G. Brooks (Eds.), *In search of understanding: The case for constructivist classrooms* (pp. vii – viii), Alexandria, VA: Association for Supervision and Curriculum Development.

Gage, N. L. (1978). *The scientific basis of the art of teaching*. New York: Teachers College Press.

Groundwater-Smith, S. and Mockler, N. (2003). *Learning to listen: Listening to learn*. Sydney: University Press.

Hatton, E., ed. (2001). *Understanding teaching* (2nd ed.). Sydney: Harcourt Publishers International.

Hennessey, M. G. (2003). Metacognitive aspects of students' reflective discourse: Implications for intentional conceptual change teaching and learning, in G. M. Sinatra and P. R. Pintrich, (Eds.), *Intentional Conceptual Change* (pp. 103-132). Mahwah, NJ: Erlbaum Press.

Hill, P. W. and Rowe, K. J. (1998). Modelling student progress in studies of educational effectiveness. *School Effectiveness and School Improvement, 9*(3), 310-333.

Jonassen, D. H. (2000). *Computers as mindtools for schools: Engaging critical thinking.* Columbus, OH: Prentice Hall.

Kalantzis, M., Cope, B., and Fehring, H. (2002). *Multiliteracies: Teaching and learning in the new communications environment* (*PEN 133*). Sydney: Primary English Teaching Association.

Killen, R. (2003). *Effective teaching strategies: Lessons from research and practice*. Frenchs Forest, NSW: Social Science Press.

Ladson-Billings, G. (1995) But that is just good teaching! The case for culturally relevant pedagogy. *Theory into Practice, 34*, 161-165.

Marsh, C. (2007). *Becoming a teacher: Knowledge, skills and issues*. Frenchs Forest, NSW: Pearson Education Australia.

Marshall, H. H. (1996). Implications of differentiating and understanding constructivist approaches. *Educational Psychologist, 31*, 235-240.

Montague, M. and Warger, C. (1997). Helping students with attention deficit hyperactivity disorder succeed in the classroom. *Exceptional Children, 30*(4), 1-6.

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

New South Wales Department of Education and Training (2003a). *Quality teaching: A discussion paper*. Sydney: Author.

New South Wales Department of Education and Training (2003b). *Quality teaching in NSW public schools: A classroom practice guide*. Sydney: Author.

New South Wales Department of Education and Training (2001). *School map: Best practice statements 2001*. Sydney: Author.

New South Wales Department of Education and Training (1997). *Quality teaching quality learning*. Sydney: Author.

Perkins, D. N. (1995). *Outsmarting IQ: The emerging science of learnable intelligence*. New York: Free Press.

Phillips, D. C. (2000). *Constructivism in education: Opinions and second opinions on controversial issues.* Chicago, IL: The National Society for the Study of Education.

Ramsey, G. (2000). *Quality matters revitalising teaching: Critical times, critical choices, Report of the Review of Teacher Education, NSW*. Sydney: NSW Department of Education and Training, Sydney.

Senge, P., et al, (2000). *Schools that learn*. London: Nicholas Brearley Publishing.

Shulman, L. S. (1987). Knowledge and teaching: Foundations for the new reform. *Harvard Educational Review*, 57, 1-22.

Stringer, E. T. (1996). *Action research*. Newbury Park, CA: Sage Publications.

Talbert, J. M. and McLaughlin, M. W. (1993). Understanding teaching in context. In D. K. Cohen, M. W. McLaughlin, and J. E. Talbert (Eds.), *Teaching for understanding: Challenges for policy and practice*. San Francisco: Jossey-Bass.

Vinson, T. (2002). *Inquiry into the Provision of Public Education in NSW*. Sydney: NSW Teachers Federation and Federation of P& C Associations of NSW.