

# The Question Quadrant: A stimulus for a negotiated curriculum



**ROSIE SCHOLL** IS COMPLETING A PHD PROJECT ENTITLED 'TRANSFORMING PEDAGOGY THROUGH PHILOSOPHY FOR CHILDREN', THROUGH THE SCHOOL OF EDUCATION AT THE UNIVERSITY OF QUEENSLAND. THIS THESIS EXPLORES THE IMPACT THAT TRAINING AND IMPLEMENTATION OF PHILOSOPHY HAS ON THE PEDAGOGY OF PRIMARY SCHOOL TEACHERS. HER SUPERVISORS ARE DR KIM NICHOLS AND DR GILBERT BURGH.

Rosie has taught in primary schools across Queensland since 1993. She is a practising teacher at an inner-city school in Brisbane and a keen practitioner of philosophy for children. She also has a level two teacher educator certificate in philosophy and has worked with teachers in both face-to-face and online modes to deliver in-service programs on the teaching of philosophy in the classroom. She has completed a Masters in Education at The University of Queensland focusing on children's questions with regard to philosophy, metacognition and reading comprehension. Her other professional interests include literacy, adult education and school reform.

Rosie is a co-author of the book *Philosophy with Young Children: A classroom handbook* which was written with professional staff from Buranda State School and Philip Cam from the University of New South Wales. (Editor's note: See References for full details. This book is available from [www.acsa.edu.au](http://www.acsa.edu.au)).



## Abstract

Questions can be, in and of themselves, a form of higher order thinking. Students' questions can assist in the design of curriculum and assessment where teachers believe in students and are willing to share power with them, in order to negotiate curriculum and assessment. This pedagogical approach mirrors the idea of 'meddler in the middle' (McWilliam, 2008) and can support a trans-disciplinary approach to learning. This paper shares practical ideas about negotiating curriculum with students, through teaching them to question and use their questions in purposeful ways. It draws on classroom experience in using the Question Quadrant (Cam, 2006). Whilst the Question Quadrant is a useful tool for developing philosophical questions with students, this paper makes links to current theorising about curriculum, pedagogy and assessment, showing how the Question Quadrant can be used as the central integrating device for negotiating curriculum and assessment with students.

This approach would also answer many of the demands of the Productive Pedagogies (Lingard et al., 2001) and current assessment practices, and engage students in pursuit of their learning interests.

The important thing is not to stop questioning. Curiosity has its own reason for existing.

Albert Einstein

## Introduction

Questioning is an important skill in learning generally. In philosophy lessons, questions lead us to wonder, to inquire, to challenge ideas and to reflect. Philosophical inquiry (Burgh, Field & Freakly, 2006; Cam, 1995; Cam, et al., 2007; Lipman, Sharp & Oscanyan, 1980) involves learners in communal dialogue which seeks answers to their questions and to question their answers. This process melds critical, creative and caring thinking through collaborative dialogue, and assists individual and communal reflection. Communal dialogue on philosophical ideas challenges our assumptions about the world and ourselves. It requires us to suspend judgement, knowing that there may be no single right answer.

Questioning, by both students and the teacher, is central to a responsive *dialogic* pedagogical approach (Biesta, 2006). This represents a way of working found in the philosophy lesson specifically, but applicable across the curriculum generally, and supported through a synergy of ideas from across the disciplines of education (Buber, 1958; Burbules, 1993; Freire, 1970; Renshaw, 2004), psychology (Vygotsky, 1978), linguistics (Bahtkin, 1981), philosophy (Gadamer, 1979), social theory (Habermas, 1984), science (Bohm, 1996) and organisational learning (Senge, 1990). Dialogue positions both students and teachers as learners and teachers: it is an approach that prioritises and highly values listening, understanding and respect.

Dialogue in this paper is aligned with two perspectives: the political and the interpersonal. Firstly, Freire (1970, p. 70) notes that:

Dialogue is the encounter between men, mediated by the world, in order to name the world. Hence, dialogue cannot occur between those who want to name the world and those who do not wish this naming — between those who deny others the right to speak their word and those whose right to speak has been denied them... Dialogue cannot exist, ...in the absence of a profound love for the world and for people.

Thus, in dialogue, teachers must share power with students and not deny them ‘the right to speak their word’. This necessitates a shift in the way many teachers conceptualise and practise teaching and learning, the way they physically arrange classrooms, the relationships they build and the roles they allow students to play.

Hence, community building and the role of the teacher are integral to the success of a responsive, dialogic pedagogy. In the Bohmian sense “dialogue is something more of a common participation in which we are not playing a game against each other but with each other” (Bohm, 1996, p. 7). In this environment, the learning community is able to use student questions, philosophical or otherwise, to negotiate curriculum and assessment.

Where this negotiation happens, teachers take on the role of ‘meddler in the middle’ (McWilliam, 2008). They facilitate, guide, suggest, adapt, incorporate and offer structure and scaffolding (Bruner, 1961) to learning. Teachers and students alike help each other move across zones of proximal development (Vygotsky, 1978). Teachers may not be able to control each aspect of the dialogue and negotiation. They bring, however, an in-depth knowledge of the curriculum and of assessment strategies, and school and community resources. Teachers bring experiential understanding, maturity and professionalism which assist them in facilitating dialogue, engaging and including students’ *equally valuable* thoughts, knowledge and experience. Less quantity in terms of experience, in comparison with adults, *does not* equate with less value. Being genuinely and authentically engaged in helping students learn and grow in self-directed, intrinsically motivated ways, means valuing and using their experience (Dewey, 1938). In order to negotiate curriculum and assessment with students (Boomer, 1992; Hyde, 1992), students’ ideas must lead learning, where possible.

When they follow their students’ leads, teachers are obligated to use and share their curriculum and assessment knowledge and processes, to help children weigh up possibilities, given time, resource and contextual constraints. Critical to this type of learning and negotiation are the students’ questions (Scholl, 2004) and the teacher’s subsequent skill in meddling, modelling and moulding these questions to achieve a blend of students’ desired learning outcomes and those stipulated by statutory curriculum authorities.

In this paper, practical ideas about negotiating curriculum and assessment with students are elaborated on, through teaching students to ask meaningful and purposeful questions. The Question Quadrant (Cam, 2006) is a practical tool which teachers and students can use to begin the process of negotiating trans-disciplinary curriculum and assessment. The Question Quadrant tool will be explained in detail, and examples of student questions and subsequent possibilities for negotiated curriculum and assessment will be suggested, with reference to a series of activities from a Year 4/5 classroom. In using the Question Quadrant this way, the teacher and students engender pedagogical processes which would answer many of the demands of the Productive Pedagogies (Lingard et al., 2001). Additionally, assessment can be addressed in a transparent manner clearly aligned with curriculum, and designed with students. Through these activities students are engaged both individually and as part of a learning community, in pursuing their questions, which validate curriculum goals and stoke their fires of curiosity and motivation for lifelong learning. First, it is necessary to explain the Question Quadrant.

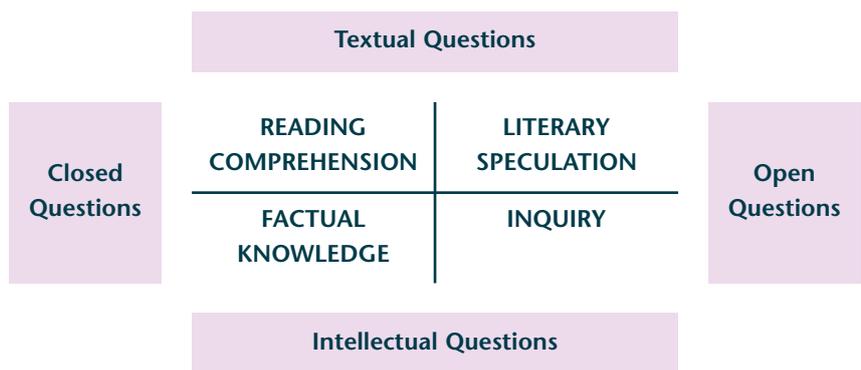
## The Question Quadrant

The Question Quadrant was first devised by Philip Cam (2006) while working with students and teachers in order to hone, sort and categorise students' questions for philosophical dialogue. It is a tool which assists teachers to explicitly teach question types with the intention of using students' questions to guide learning, particularly philosophical inquiry. The horizontal axis represents the continuum between closed and open questions, and the vertical axis represents the continuum between textual questions and questions about life. The four quadrants categorise questions as Reading Comprehension, Literary Speculation, Factual Knowledge and Inquiry (see Figure 1).

The Question Quadrant is built up at a suitable pace for the students, through explaining the distinctions on either side of each axis and modelling the different question types. Sitting students in a circle around the Question Quadrant as it is built on the floor enables clear communication. Students can clearly see each other and the Question Quadrant, and manipulate the questions as required. The Question Quadrant can then be constructed using ribbon and cardboard labels for the axis and quadrants.

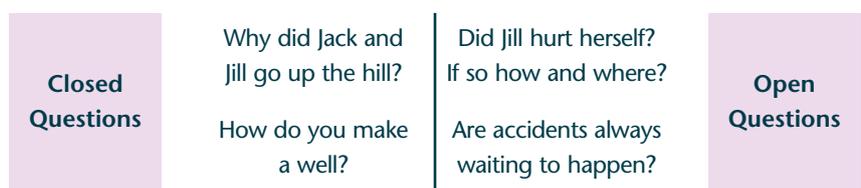
When first teaching the Question Quadrant, use a well known text: a nursery rhyme, fable or fairytale. Revise the text with students, then model the different question types explaining why questions fit into the different quadrants, thus justifying your placements and modelling this justification for students. Students then sort teacher developed questions into the four quadrants, before developing their own questions for each quadrant. Questions may sit on a line or fit into more than one quadrant. Reasons must be given for the chosen placement of questions.

FIGURE 1: THE QUESTION QUADRANT



(Cam, 2006, p. 34)

FIGURE 2: SORTING OPEN AND CLOSED QUESTIONS



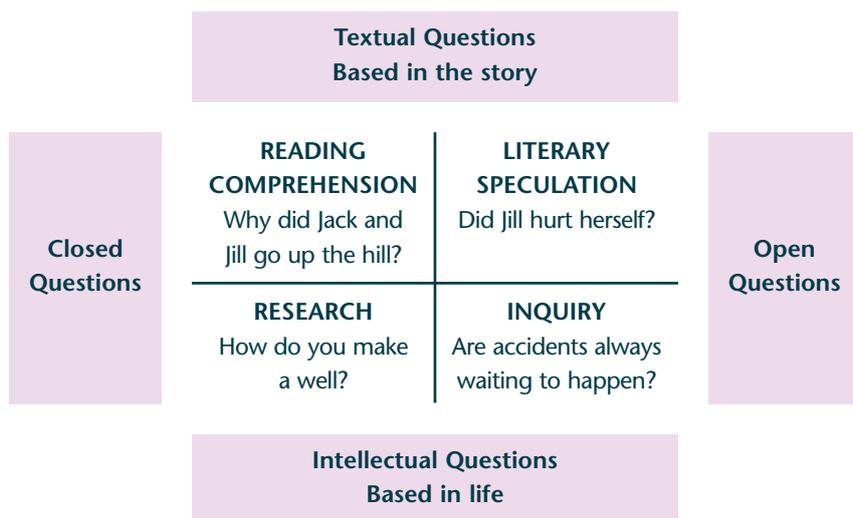
The nursery rhyme Jack and Jill is the stimulus for the following questions. The first step is to model open and closed questions (see Figure 2), either side of the vertical axis, which relate to the text. Four such questions relating to the nursery rhyme are:

1. Why did Jack and Jill go up the hill? (Closed)
2. Did Jill hurt herself? If so how and where? (Open)
3. How do you make a well? (Closed)
4. Are accidents always waiting to happen? (Open)

Closed questions are ones for which settled answer/s exist. The answer will be in the text, or might require a little research, but there will be a correct answer. Closed questions can have more than one correct answer. For example, "What plants do you grow in your garden?" may have a limited number of correct answers. With open questions correct answers don't exist, although some answers are more appropriate or more reasonable than others. Open questions invite speculation.

The next step is to sort those four questions into a further two categories across the horizontal axis; questions about the text (with reference to character/s, event/s or setting/s) and questions about how we live our lives (with abstract links to the text). The complete model is shown in Figure 3 with some adaptations from Cam's (2006) labels; for example *FACTUAL KNOWLEDGE* becomes *RESEARCH* and the labels on the vertical axis are expanded to *Textual Questions Based in the Story* and *Intellectual Questions Based in Life*. Once the questions are sorted into their appropriate places the labels for those quadrants can be determined with students.

**FIGURE 3: SORTING QUESTIONS INTO THE FOUR QUADRANTS**



Students can then discuss given questions in pairs (see suggestions in Table 1) and sort them into the four quadrants. Students have thus had explicit teaching of each question type, modelled and guided teaching, and finally, independent practice where student thinking and justification is foregrounded.

**TABLE 1: JACK AND JILL QUESTIONS**

Questions for sorting on the Question Quadrant: Jack and Jill
<ol style="list-style-type: none"> <li>1. Why did Jack and Jill go up the hill?</li> <li>2. Did Jack fall down the hill?</li> <li>3. Why did Jill come tumbling after?</li> <li>4. Why do people have accidents?</li> <li>5. Are accidents always waiting to happen?</li> <li>6. Jack and Jill fetched water. What is water made of?</li> <li>7. How do you make a well?</li> <li>8. Should Jack and Jill stay friends?</li> <li>9. How do we know who to be friends with?</li> <li>10. Should we remain friends with people who cause us to have accidents?</li> <li>11. Will brown paper and vinegar really make Jack's head better?</li> <li>12. What will make Jack's head better?</li> <li>13. Did Jill hurt herself? If so how and where?</li> <li>14. What does it mean to be hurt?</li> <li>15. Did Jill care about Jack?</li> </ol>

Importantly, students must be able to justify why they place questions where they do, remembering that questions might fit in more than one quadrant, depending on the question and the student's reason/s. Hence, the notion of correct placements is not always appropriate and dialogue about question placement is vital in understanding question types. Students begin to develop a metacognitive understanding by forming, understanding and answering questions. Insisting students use the word 'because' to articulate their reason/s is useful to begin dialogue about questions and their purposes. Once students can confidently sort and justify placement of given questions, encourage them to develop their own question for each quadrant.

Students may need to practise developing questions. Once confident with the Question Quadrant as a tool to help them formulate, sort and categorise questions, students and teachers can use the Question Quadrant to negotiate learning. The pedagogical content knowledge (Shulman, 1986) of the teacher is imperative in differentiating the curriculum and assessment, into that which can and cannot be negotiated.

### Negotiating Learning

Metcalf and Game (2006) in their book, *Teachers Who Change Lives*, explain just such a situation. In describing good teachers they say:

Good teachers, then, do not simply ignore institutional demands. They must know the set curriculum outcomes, but suspend desire for these during class discussions. In this way they allow the outcomes to be rediscovered through an enquiry based on a love of learning. (p. 54)

One teacher they interviewed, Vicki Yannakouros, describes negotiating curriculum with young students through implementing philosophy for children.

Discussion and questioning is just intrinsic, and listening to children question. Our outcome for this term is living things, and the other day we had a class on differences between living and non-living things. I thought *OK I'm going to try some ideas I heard in a presentation about philosophy for children*. I put the words Living and Non-living up on the board and I said I'm not going to tell you what they mean. So then I put the children into groups to just talk and it was interesting because I heard these snippets of conversations and I thought *Oh my God! What are they talking about?* And they came back and I asked them to tell me what they talked about so they just brainstormed. And we wrote down all this stuff and... can I show you? It's just fascinating. (Metcalf & Game, 2006, p. 54)

She goes on to say...

And then the questions got really good. *I want to learn about the people who were first alive or the time before people were alive. Why are the dinosaurs dead or extinct? How did one person start off man, because there are millions and millions of people around, so was there one person first? How did the first person come to earth? How did monkeys turn into people? What do bugs' bones look like? How did the caveman get alive?* [and so on]

So I just went, *Uh oh, right*. So I've since spoken to our teacher librarian and the high school science teacher and we've started planning all sorts of stuff we can do together. I'm really excited about that because I figure I'm still covering the curriculum but I'm working with my kids and it's about what they want to do. (Metcalf & Game, 2006, p. 55)

The following example of negotiated curriculum mirrors Vicki Yannakouros' experience. The activities described in this paper are situated in a Year 4/5 cooperative teaching space, in a Queensland state school.

The teachers of these classes had participated in two days philosophy training as well as two philosophy mentoring sessions where they received feedback on their teaching of philosophy and suggestions for future lessons. Both were proficient teachers with a depth of experience and knowledge, and learners themselves.

The teachers and their students were inquiring into the Year 5 Studies of Society and Environment (SOSE) curriculum (Queensland Studies Authority, 2007). The Essential Learnings related to British colonisation of Australia, various cultural and historical perspectives of this event, and its impact on humans and the natural environment. The relevant Year 5 SOSE Essential Learnings, are outlined in Table 2.

**TABLE 2: YEAR 5 SOSE QUEENSLAND 2007**

Essential Learnings	
1. Ways of Working	<ul style="list-style-type: none"> <li>■ Pose and refine questions for investigations</li> <li>■ Apply strategies to influence decisions or behaviours and to contribute to groups</li> <li>■ Reflect on and identify personal actions and those of others to clarify values associated with social justice, the democratic process, sustainability and peace</li> <li>■ Reflect on learning to identify new understandings and future applications.</li> </ul> <p style="text-align: right;">(QSA, 2007, p. 2)</p>
2. Knowledge and understanding	<ul style="list-style-type: none"> <li>■ British colonisation of Australia is connected with particular events and changes, including European exploration, the landing of the First Fleet, proclamation of terra nullius, establishment of penal and free settlements, contact with the Indigenous population and the development of industries.</li> <li>■ Events can be viewed differently according to a range of cultural, gender and socioeconomic viewpoints e.g. arrival of Europeans seen from Indigenous viewpoints and from European viewpoints.</li> </ul> <p style="text-align: right;">(QSA, 2007, p. 2)</p>
3. Place and space	<ul style="list-style-type: none"> <li>■ Sustainability of local natural, social and built environments can be influenced by positive and negative attitudes and behaviours e.g. positive responses to water management can influence the quality of river systems; negative responses to town planning principles can lead to traffic problems.</li> </ul> <p style="text-align: right;">(QSA, 2007, p. 3)</p>

**TABLE 2: YEAR 5 SOSE QUEENSLAND 2007 (CONTINUED)**

Essential Learnings	
4. Culture and identity	<ul style="list-style-type: none"> <li>■ Groups in Australian communities contribute to cultural diversity by celebrating differences and commonalities e.g. Queenslanders participate in a range of celebrations such as NAIDOC Week, Chinese New Year, Greek and Italian festivals, Mabo Day and Queensland Day.</li> <li>■ Australian society has responded to different cultures in positive and negative ways e.g. positive — anti-discrimination laws of the late 20th century, participation in the walk for reconciliation; negative — restriction on citizenship status for some groups, segregation of public facilities.</li> <li>■ Aboriginal people and Torres Strait Islander people have distinctive social organisation, languages and lifestyles e.g. importance of elders; over 250 languages linked to specific groups and places; distinctive foods and medicines.</li> </ul> <p style="text-align: right;">(QSA, 2007, p. 3)</p>
5. Political and economic systems	<ul style="list-style-type: none"> <li>■ Australia’s government systems are based on principles of democracy, including elected representation, free speech and civic participation, that have their origins in ancient Greece, Britain and the United States e.g. democracy in Athens; parliamentary system from Britain; written constitution from the United States.</li> <li>■ Citizenship involves people sharing values, and working together in communities to influence decision making, resolve conflicts and achieve consensus between diverse views of individuals and groups e.g. a local land-care group working to solve local environmental problems; a local group participating in reconciliation initiatives.</li> </ul> <p style="text-align: right;">(QSA, 2007, p. 4)</p>

### *Examples from a Year 4/5 classroom*

The students in this class understood the difference between open and closed questions but had not been introduced to the whole Question Quadrant. The Question Quadrant was made on the floor, as previously described. Questions about Humpty Dumpty were used to model the distinction between the four quadrants. The students were then asked to sort the remaining Humpty questions onto the quadrant.

The story ‘The Rabbits’ by John Marsden and Shaun Tan (2000), was then read to the students. This story can be seen metaphorically to describe the circumstances of British colonisation of Australia. Students were asked to identify the main ideas in the story. The ideas students suggested were: improvement, progress, introduce, change, ownership, environment, sustain, destroy, invasion, conflict, settlement, pollution and homes. These words were written on strips of paper and placed around the edges of the quadrant. Working in small groups, the students then chose one of the suggested themes and formulated a question for each quadrant about that theme.

The students’ questions were sorted into the categories on the Question Quadrant (see Figure 4). Understanding that questions may fit into more than one quadrant, allows students to alter and manipulate questions for different purposes as they negotiate learning. For example in the Inquiry quadrant the question was asked: What is a home? This question can be both a useful stimulus to philosophical dialogue or lead students into researching homes around the world, making model homes, or becoming involved in a building project.

Clear links between the students’ questions, the SOSE Essential Learnings and other Essential Learnings, including Science and English are apparent. The students’ questions demonstrate that the Question Quadrant is a useful tool for engaging students in questioning and negotiating trans-disciplinary curriculum: in this case philosophy, SOSE, English and Science.

**FIGURE 4: YEAR 4/5 STUDENT QUESTIONS FROM 'THE RABBITS' BY SHAUN TAN AND JOHN MARSDEN**

Textual Questions Based in the story	
Closed Questions	<p><b>READING COMPREHENSION</b></p> <p>What was introduced in the story?            What invaded? <i>Lachlan and Seb</i>            How did the rabbits invade? <i>Sophie Lee</i>            What settled?</p> <p>Do the rabbits pollute the air?            How did the rabbits pollute? <i>Billie and Ruby</i>            What did the rabbits pollute? <i>Keely</i></p> <p>How did the rabbits come? <i>Jack</i></p> <p>What changes did the rabbits make?</p>
	<p><b>LITERARY SPECULATION</b></p> <p>Why did the rabbits invade Australia?            Why did they invade? <i>Jonah</i>            Were the rabbits going to Australia?            Why did they come to our country? <i>Hannah</i>            Where did they invade?            Why did the rabbits invade our town? <i>Seb</i>            Why are the rabbits doing this?</p> <p>Why did they cut the homes down?</p> <p>What did the rabbits bring? <i>Aidan</i>            How did the rabbits settle so fast?</p> <p>Why didn't the rabbits let them be?</p> <p>Did the rabbits kill other species?</p> <p>What could the rabbits be? <i>Curtis</i></p> <p>Which country did they come from? <i>Sianne</i>            Where is the rabbits' home?</p> <p>Why do they pollute? <i>Jarrold</i></p>
Open Questions	<p><b>RESEARCH</b></p> <p>Who owns the land?            How could we settle?            What do you do to make a settlement?            Why do we settle?            How did the settlement start?</p> <p>Why do we need homes?</p> <p>Are all introduced species bad?            Do introduced species endangered other species?</p> <p>What chemicals are dangerous for the environment? <i>Mrs M.</i>            What damage does pollution do? <i>Zoe</i>            How does pollution form?            What does pollution do?            Why do we cause pollution and how?</p> <p>What are some places that have been invaded?  <i>Josh and Mr B.</i></p>
	<p><b>INQUIRY</b></p> <p>What is a home?</p> <p>What could people get from invading?            Why do we invade? <i>Zoe</i>            Should we ever invade? <i>Chris</i>            Do we need to invade to settle?</p> <p>Should everyone settle down?</p> <p>Who owns the land?            How do we decide who owns what?</p> <p>Should we ever pollute?            Why do we pollute? <i>Savannah</i>            Should people pollute?</p> <p>Do we really value our environment?</p> <p>Why are we so greedy? <i>Nathaniel</i></p>
Intellectual Questions Based in life	

NB: Students' names should be recorded with their questions.

Following this the teacher should reflect on the students' questions in light of curriculum and assessment requirements, to locate Essential Learnings and assessment tasks which will add structure to the students' learning journeys. Negotiating possibilities for learning and assessment in response to student questions is feasible.

Students questions, developed using the Question Quadrant, become the stimulus for negotiating trans-disciplinary curriculum and assessment tasks. These learning activities can be completed in various ways, including:

- whole class, small group or individual activity
- rotated around groups so students can develop questions for other students in the same group or across groups
- part of a peer tutoring activity across classes and/or year levels.

The following activities have been organised to respond to questions in each of the four quadrants and are explained under those headings: Reading Comprehension, Literary Speculation, Research and Inquiry.

### Reading Comprehension

When students ask reasonable comprehension questions related to the text it is fairly safe to assume they have comprehended the text. Uses for these questions include quick quizzes and clues for 'find-a-words' or crosswords. More importantly, questioning the text is a key feature in approaches to teaching reading and critical literacy, including reciprocal teaching (Palincsar & Brown, 1984) and the four resources model (Luke & Freebody, 1999) respectively.

'Text' alludes to a range of events, stories and media. Combining reading comprehension questions with at least one question from another quadrant extends the activity. For example, students could develop comprehension cards with a set number of Reading Comprehension questions and at least one Literary Speculation question, to engage others in imagining and speculating about the text.

### Literary Speculation

Literary speculation involves students in thinking about the text in a manner which takes them beyond the text. These questions invite students to hypothesise, assume, speculate, imagine and invent. This is a direct lead into creative writing or an intervention within the text. For example a Literary Speculation question from 'The Rabbits' (Marsden & Tan, 2000) might be:

How could the story have been different if the rabbits talked to the first people? Another possibility would be to rewrite the text from the perspective of the rabbits. Students' responses to such questions could be in fiction or non-fiction genres using multi-literacies: stories, poems, cartoons, role play, diary entries, newspaper reports, historical accounts, PowerPoint presentations or podcasts. Examples of Literary Speculation questions suggested by these students included:

- Why did they [the rabbits] invade? Jonah
- What did the rabbits bring? Aidan
- Why do they [the rabbits] pollute? Jarrod

These questions also invite hypothetical reasoning about the text. Table 3 provides a simplistic structure for explicitly teaching hypothetical reasoning.

**TABLE 3: SUGGESTIONS FOR HYPOTHETICAL REASONING**

Antecedent Statement	Possible Consequences
If the rabbits didn't come then...	1. 2. 3.
If the rabbits brought a willingness to learn about the others then...	1. 2. 3.
If the rabbits didn't pollute then...	1. 2. 3.

In addition, this particular text lends itself to the exploration of simile, metaphor and analogy. Writing metaphorical texts based on this or other historical events becomes a possibility:

- How did the rabbits settle so fast?
- What else could have settled fast? Write and present a story about them.
- What animal settles slowly compared to rabbits? Write and present a settlement or invasion story about them.

This work blends fiction and nonfiction, and invites further research.

## Research

In the case of 'The Rabbits' the students' research questions open up some interesting ideas for scientific and social research, and related products and presentations for assessment. This is not hands-free teaching. There is much 'scaffolding' (Bruner, 1961) required from the teacher: to encourage, question, prompt, guide, suggest, and model. Assessment tasks can be based on students' questions. Products and presentations of the research will be "the outward and visible sign of student engagement" (Department of Education & Training, 2009a).

Products and presentations were a key feature of the Rich Tasks within the New Basics Project (Department of Education & Training, 2009b) and the Rich Task Blueprints (Department of Education & Training, 2009c) which serve as assessment ideas for teachers to use or models to mimic when negotiating assessment with students. In the case of these questions, inspired by 'The Rabbits', environmental research is required:

- Are all introduced species bad?
- Do introduced species endanger other species?

Rich Tasks in the Years 1–4 Suite of tasks titled *2a Multimedia Presentation of an Endangered Plant or Animal* and *2b Multimedia Presentation of an Introduced Plant or Animal* (Department of Education & Training, 2009d) would respond aptly to such questions. Alternatively, there are the Rich Task Blueprints, including *Damage and Danger to the Natural World* (Department of Education, Training & the Arts, 2007) for lower primary and *Science Under a Microscope* (Department of Education & Training, 2009e) for upper primary.

These Blueprints could be used to negotiate curriculum and assessment arising from student questions about pollution:

- What chemicals are dangerous for the environment? Mrs M.
- What damage does pollution do? Zoe
- How does pollution form?
- Why do we cause pollution and how?

If using or adapting given assessment tasks is not viable, students' questions can be the creative inspiration for a task. Together the teacher and students can create an aspirational response for the task they design, which itself becomes a modelled teaching activity and opportunity for joint construction of the task. The modelled (aspirational) response can be used as the stimulus for developing students' questions which could then be used in developing rubrics or checklists to assess the task.

Finally, if surveys or questionnaires are needed to complete research, the students can develop questions within them. These students' research questions are summarised in Table 4 and built on to show scope for further research. The depth of knowledge, understanding and insight students develop about concepts in their research can be enhanced through philosophical inquiry.

**TABLE 4: RESEARCH USING STUDENTS' QUESTIONS**

Ownership and Settlement	Pollution	Invasion / War History	Introduced / Endangered Species
Who owns the land? How could we settle? What do you do to make a settlement? Why do we settle? How did the settlement start? Why do we need homes?	What damage does pollution do? Zoe How does pollution form? Why do we cause pollution and how? What chemicals are dangerous for the environment?	What are some places that have been invaded? Josh	Are all introduced species bad? Do introduced species endanger other species?
<b>Building on</b>			
How are settlements made in different times and places? How would new settlements be made today? What would we need to consider if we were to settle outside the earth?	Where is pollution in our local environment? What can we do about it? Who should we work with to clean up the pollution? (See Rich Tasks Blueprints.)	When has our own country been at war? Did we invade someone or did they invade us? What were the reasons? Was the invasion necessary or worthwhile? Why and how?	Are there endangered species in our local environment? Can we help them? How? (See Rich Tasks and Rich Task Blueprints.)

## Inquiry

The Question Quadrant was designed by Philip Cam (2006) to assist teachers and students in recognising and formulating open inquiry questions about life, “the really meaty inquiry questions”, (Cam, 2006, p. 32) to stimulate deep philosophical dialogue within a community of inquiry (Burgh, Field & Freakly, 2006; Cam, 1995; Cam et al., 2007; Lipman, Sharp & Oscanyan, 1980). Philosophy lessons are generally described in a linear fashion:

- Prepare the lesson
- Share the stimulus or text
- Gather the students' questions from the text
- Sort categories of questions and connect themes
- Sit the students in a circle and facilitate the dialogue about the students' questions
- Address concept and skill development as the need arises
- Review, reflect and evaluate.

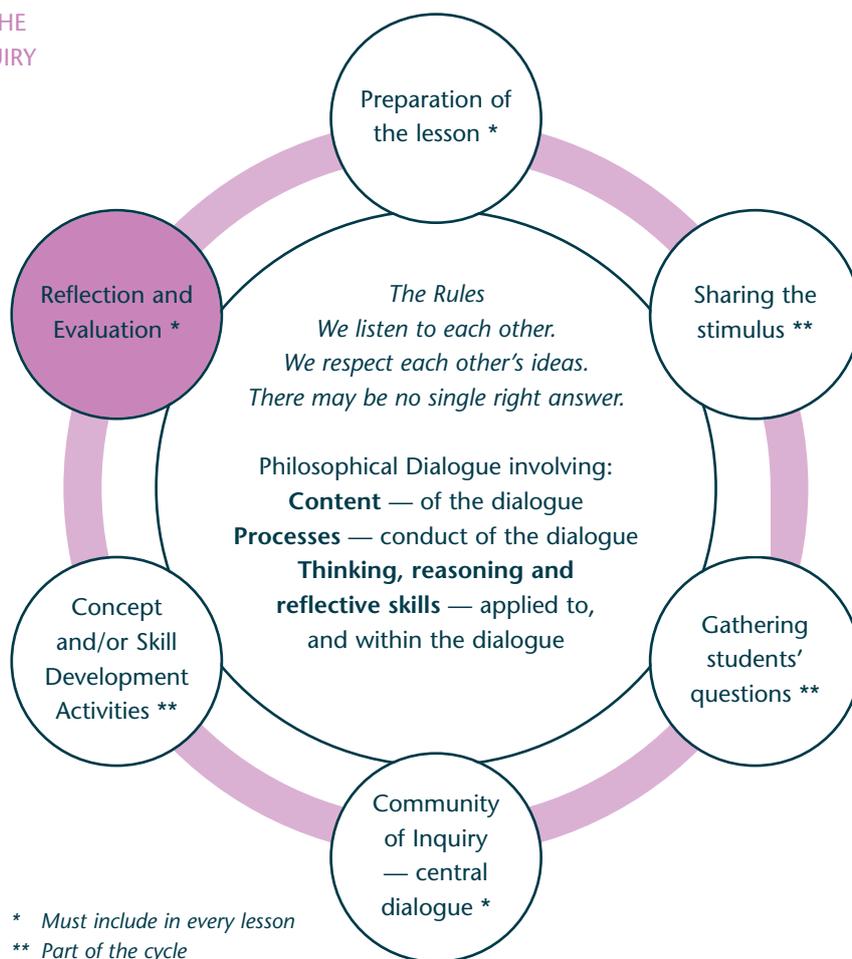
With experience, the teacher begins to see the cyclical nature of the process and the central importance of reflection and evaluation to progress within and of the dialogue (as in Figure 5). Preparation is essential, including preparation of concept or skill development and reasoning activities which challenge students and assist them to deepen their understanding of the concept. Many texts have been written to assist teachers with teaching philosophy (see Cam, 1993; 1994; 1995; 1997; 2006; Cam et. al., 2007; Golding, 2002; Lipman, 1974; Sprod, 1993).

Concept and skill development activities can be implemented using graphic organisers including Y-charts for conceptual exploration, Venn diagrams for making distinctions, T-charts for developing examples and counterexamples, a target (Cam, 2006, pp. 54–57) to hone conceptual meaning, and concept mapping to explore connections.

In response to ‘The Rabbits’ (Marsden & Tan, 2000), assumptions can be uncovered through role play focusing on different perspectives of characters, Venn diagrams can be used to explore the distinction between invasion and settlement and the metaphor of the text can be used as a model for student metaphors and analogies for settlement and invasion. The strength of students' analogical reasoning can be tested by searching for counterexamples.

Involving students in explicitly naming and using thinking, reasoning and reflective skills assists them in the development of their metacognitive skills. Once established these metacognitive skills allow students to be purposeful in the dialogue and in their learning. Metacognition is enriched through reflection on *all* aspects of the dialogue.

**FIGURE 5: THE CYCLICAL NATURE OF THE COMMUNITY OF PHILOSOPHICAL INQUIRY**



Students need to be involved in reflection and evaluation of their questions to help them develop more relevant and 'meaty questions'. Students need to reflect on each aspect of the dialogue including:

- substantive knowledge and understanding of the issues
- progress with understanding and using thinking and reasoning skills
- ability to empathise, cooperate and collaborate to develop synergistic processes within and across the class
- reflection (content, process and skill) itself.

Explicit structuring of reflection can help both teacher and students. Processes and scaffolds for reflection and evaluation include Bain, Ballantyne, Packer and Mills' (1999) Five-point Level of Reflection Scale: *Reporting, Responding, Relating, Reasoning, Reconstructing*. Questioning of initial reflections can generate transformative reflection. Graphic organisers for reflection include the SWOT analysis, KWL, PMI and JoHari Window, which are readily available on the internet. Structuring and making processes of reflection explicit, enables productive thinking, learning and pedagogy.

### Productive Pedagogies

The negotiation and activities stemming from students' questions allow teachers and students to simultaneously address many of the Productive Pedagogies (Lingard, et al., 2001) shown in Table 5. Students will be intellectually engaged, working with curriculum and assessment which is connected to their daily lives and thoughts, supported in and supportive of the learning community, and able to recognise and embrace the differences evident in each other's lives and thoughts. The learning community will operate in democratic ways through flatter power structures. This is not losing authority, rather a process of students and teachers sharing authority for and in learning, and demonstrating humility to enhance each other's learning.

**TABLE 5: PRODUCTIVE PEDAGOGIES DIMENSIONS, CATEGORIES AND QUESTIONS**

	Productive Pedagogy	Question	
Dimensions	Intellectual Quality	Higher Order Thinking	Are students using higher order thinking operations within a critical framework?
		Deep Knowledge	Does the lesson cover operational fields in any depth, detail or level of specificity?
		Deep Understanding	Do the work and responses of the students provide evidence of depth of understanding of concepts or ideas?
		Substantive Conversation	Does the classroom talk lead to sustained conversational dialogue between students, and between teachers and students to create or negotiate understanding of the subject matter?
		Knowledge as Problematic	Are students critiquing and second-guessing texts, ideas and knowledge?
		Metalanguage	Are aspects of language, grammar and technical vocabulary being foregrounded?
	Connectedness	Knowledge Integration	Does the lesson integrate a range of subject areas?
		Background Knowledge	Are links with the students' background knowledge made explicit?
		Connectedness to the World	Is the lesson, activity, or task connected to competencies or concerns beyond the classroom?
		Problem-Based Curriculum	Is there a focus on identifying and solving intellectual and/or real world problems?
	Supportive Classroom Environment	Student Direction	Do students determine specific activities or outcomes of the lesson?
		Social Support	Is the classroom characterised by an atmosphere of mutual respect and support among teacher and students?
		Academic Engagement	Are students engaged and on task during the lesson?
		Explicit Quality Performance Criteria	Are the criteria for judging the range of student performance made explicit?
		Self Regulation	Is the direction of student behaviour implicit and self-regulatory?
	Recognition of Difference	Cultural Knowledges	Are non-dominant cultural knowledges valued?
		Inclusivity	Are deliberate attempts made to increase participation of the range of students?
		Narrative	Is the style of teaching principally narrative or expository?
		Group Identity	Does the teaching build a sense of community and identity?
		Active Citizenship	Are attempts made to encourage active citizenship within the classroom?

## Conclusion

Negotiating the curriculum and assessment through use of student questions enables sound assessment practices advocated by the Queensland Studies Authority including the understanding that “assessment is a key element of the professional practice of teachers, and an integral part of the teaching and learning process” (QSA, 2009, p. 1) and that “teachers [and students? should] have the opportunity to enhance their understanding of the alignment of curriculum, assessment and reporting” (QSA, 2009, p. 1). By negotiating assessment with their students, teachers are beginning with the end in mind (Covey, 1989) and helping students backward map in order to align their assessment and learning activities.

*Students are waiting* to be allowed into this process; to be involved in and have shared ownership of their learning and assessment. They will embrace these deep and authentic processes of sharing power through responsive, dialogic teaching. The crux of the matter is the teacher's willingness to conceptualise their craft differently because teachers hold the power in the classroom. Negotiating curriculum and assessment fosters an environment where students and teachers believe in the centrality of students' questions, thoughts and ideas to learning. The Question Quadrant provides a useful tool for teachers wishing to negotiate and integrate curriculum and assessment with students. Examples offered in this paper have shown students' ability to offer meaningful and useful questions when presented with carefully selected stimulus. Situating both students and teachers as teachers and learners, through the use of student questions, leads both students and teachers to their desired outcomes in ways where all embody the spirit of lifelong learning. ■

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