

The Attributes of the Lifelong Learner

Part 1: Theoretical status of the attributes

Part 2: The views of teachers about teaching the attributes

**A report prepared for the
Queensland Studies Authority**

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Table of Contents

1	<i>Executive summary</i>	6
2	<i>Overview of Part 1</i>	6
2.1	Importance of the attributes	6
2.2	Broad issues for QSA	6
2.3	Relating the attributes to views of learning	7
2.3.1	Refinement of the QSA attributes	7
2.3.2	Recognising the influence of the situation	7
2.4	Teaching the attributes	8
2.5	Assessment and the attributes	8
2.6	Use of 'lifelong' and 'employability' qualifiers	8
2.7	Issues of implementation in classrooms	8
3	<i>Overview of Part 2</i>	9
3.1	Different conceptualizations of the place of the attributes in teaching	9
3.2	Valuing the attributes	9
3.3	An educational task for QSA	9
3.4	Making use of existing resources	10
3.5	Adapting to different contexts in primary and secondary schools	10
3.6	The value of teacher workshops	10
3.7	Wider teacher perspectives	10
4	<i>A discussion and review of research related to the Attributes of the Lifelong Learner</i>	11
4.1	Introduction	11
4.1.1	Approach	11
4.1.2	Terms	11
4.2	The idea of (general) attributes of the lifelong learner	11
4.3	Current Representations of the Attributes	13
4.3.1	The attributes and the purposes of education	13
4.3.2	Identification of the attributes in curriculum frameworks	13
4.4	Moving beyond the lists of attributes	17
4.5	Situating Learning	18
4.5.1	The learning environment and the attributes	18
4.5.2	Recognising the situation-learner transaction	18
4.5.3	Environments that support the development of learner attributes	19
4.6	The View from Research on Learning and Development	20
4.6.1	Learners are situated beings (but must be able to move beyond the situation).	20
4.6.2	Learners are social beings.	20
4.6.3	Learners are affective/emotional/motivational beings.	21
4.6.4	Learners are cognitive beings.	21
4.6.5	Learners are metacognitive beings.	22

	4
4.6.6 Learners are developing beings. _____	22
4.7 Representing the learner as an integrated being _____	24
4.8 Recognising the connectedness of learning _____	24
4.9 The case for identification of the attributes _____	25
4.10 Teaching of the Attributes _____	28
4.10.1 Teaching about the attributes _____	28
4.10.2 Teaching for transfer _____	29
4.10.3 Teaching of dispositions _____	30
4.10.4 Explicitly teaching knowledge about learning and teaching _____	30
4.10.5 Valuing what is taught through assessment _____	31
4.11 Issues Associated with Current QSA Representations of the Attributes _____	32
4.11.1 Should the 'lifelong' and 'employability' qualifiers be used when describing general attributes of learners? _____	32
4.11.2 Why is there continuing concern about classroom use of the attributes of lifelong learners? _____	33
4.12 The challenge of representation _____	36
4.13 The creation of a learning culture _____	38
4.14 Conclusion: Part 1 _____	38
5 <i>Part 2: Teachers' perspectives on the Attributes of the Lifelong Learner</i> _____	40
Introduction: Part 2 _____	40
5.1.1 The Research design _____	40
5.1.2 Approval Processes and Ethics _____	41
5.2 Teacher workshops, interviews and questionnaires _____	41
5.2.1 Workshop Design _____	42
5.2.2 Limitations _____	43
5.2.3 Format for presentation of results _____	43
5.3 Teachers' Knowledge and Understanding about the attributes _____	44
5.3.1 Research Question 3: How well-developed is teachers' knowledge about the attributes? _____	44
5.3.2 Research question 4: Which of the attributes are well understood, or not well understood, by teachers? _____	46
5.4 Teachers' perceptions of the nature of the attributes _____	51
5.4.1 Research question 5: Do teachers consider that any essential attributes are not included in the QSA list of attributes? _____	51
5.4.2 Research question 6: Do teachers' view the attributes framework as useful for guiding teaching practice and facilitating habits of lifelong learning? _____	52
5.4.3 Research Question 11: Do teachers consider that teaching and learning of the attributes is successful in their classroom and school? _____	54
5.5 Implementing the attributes _____	55
5.5.1 Research Question 7: What <i>explicit</i> and <i>implicit</i> teaching strategies do teachers employ to enhance the attributes? _____	55
5.5.2 Research Question 8: What strategies do teachers use for assessing and recording students' achievement of the attributes? _____	64

5.5.3	Research Question 9: What are the major difficulties associated with incorporation of the attributes into teaching and assessment? _____	68
5.5.4	Research question 10: From the teachers' perspectives which attributes are, and are not readily understood by students? _____	70
5.5.5	Research Question 12: What further support, if any, do teachers need to facilitate the implementation of the attributes? _____	71
5.6	Implications for policy _____	75
5.6.1	Recognition of differences in the way that Attributes of a Lifelong Learner are positioned in the school curriculum _____	75
5.6.2	The potential of collaborative teacher workshops for professional development _____	78
5.6.3	The value placed on the attributes by QSA _____	79
5.6.4	An educational task for QSA _____	79
5.6.5	Collecting a broader range of teachers' perspectives _____	79
5.6.6	Adapting the attributes to different contexts _____	79
5.6.7	Developing resources _____	80
5.6.8	The perceived assessment and reporting burden _____	80
6	<i>References: Part 1</i> _____	81
7	<i>References: Part 2</i> _____	94
8	<i>APPENDIX A: Letter of introduction</i> _____	95
9	<i>APPENDIX B: Consent form</i> _____	96
10	<i>APPENDIX C: Teacher workshops on the attributes of a lifelong learner: Outline of sessions</i> _____	97
11	<i>APPENDIX D: Teaching about the attributes of the lifelong learner questionnaire</i> _____	99

1 Executive summary

This report has been prepared for a research project commissioned by the Queensland Studies Authority (QSA) in December 2004 on *The role of self-directed learning in developing the lifelong learner*.

The report is presented in two parts. Part 1 is a discussion paper in which we review the theoretical basis for the attributes of the lifelong learner (referred to here as *the attributes*) identified in recent curriculum and syllabus documents of the Queensland Studies Authority (QSA)¹. The review provides an analysis of the attributes in relation to research on learning, development and teaching. Part 2 of the report presents findings, derived from two teacher workshops held in Brisbane in September 2005, on the perspectives of teachers about the teaching and learning of the attributes of the lifelong learner.

2 Overview of Part 1

2.1 Importance of the attributes

The attributes identified by the QSA are central to discussions of the broad purposes of education that have appeared in international forums and reviews, and are similar in nature to lists of capabilities, skills, competencies and essential learnings that are explicit in the curriculum frameworks of the different Australian state education systems. Collectively these lists focus on four broad categories:

- Literacies required for different parts of life (e.g. literacy in language, number and technology);
- Facility with processes that can be applied to many tasks in different domains (e.g. problem solving and critical thinking);
- Personal qualities that contribute to the development of agency in the learner (e.g. self-efficacy and interests); and
- Interpersonal skills that facilitate social interaction (e.g. empathy and ethics).

2.2 Broad issues for QSA

We do not think that QSA will gain great value from allocating resources to the generation of further lists of attributes. More valuable, in our view will be further consideration of:

¹ A list of the attributes of the lifelong learner as contained in QSA documents can be found in Table 1.

- the description of the attributes, which should include refinement of the attributes in the light of findings emerging from the review of research on learning and development;
- explicit teaching of the attributes, including knowledge of *what* the attributes involve, *how* they can be used and *when* they can be used;
- how the attributes are represented in QSA documents, including whether the *lifelong learning* and *employability* qualifiers should be used, and whether the attributes need to be represented differently for teachers of different year levels;
- how the attributes can be valued through assessment.

2.3 Relating the attributes to views of learning

Our review of extant research draws attention to the nature of each learner, and also to the systemic and situated nature of learning. These characteristics of learning are evident both in the transactions between different facets of each individual's learning, and in transactions between learners and their learning situations. This perspective is amplified in a review of the teaching and learning literature that highlights the multifaceted nature of learners. We argue that when designing teaching-learning events, attention must be given to six facets of the nature of learners. Learners are

- Situated beings
- Social beings
- Affective/emotional/motivational beings
- Cognitive beings
- Metacognitive beings
- Developmental beings

2.3.1 Refinement of the QSA attributes

This review does provide a theoretical basis for identifying the attributes as important areas for attention by developers of policy, by teachers and by students. The QSA list of attributes could be refined to give more weight to the situated nature of learners, and to affective, motivational, metacognitive and developmental indicators.

2.3.2 Recognising the influence of the situation

An emphasis on the situated nature of learning is significant in order to make clear that representation of the attributes of the lifelong learner without recognition of the influence of learning environments on learning outcomes is inappropriate. Most representations of the attributes do not give appropriate explicit recognition to the influence of learning (or work) environments on the development and use of the attributes.

2.4 Teaching the attributes

The attributes of the learner, including skills and self-regulatory motivations, dispositions and metacognitive awareness and strategies, can be the subject-matter of teaching. We review issues related to teaching for transfer, teaching about dispositions for learning, and the development of explicit knowledge about teaching and learning through all years of schooling.

2.5 Assessment and the attributes

The subject-matter of teaching, including teaching about the attributes, must be valued through appropriately aligned assessment. Although some of the cognitive attributes of learners are currently valued in assessment, self-regulatory metacognitive and motivational awareness and control, and personal and interpersonal attributes, are not explicitly valued through formal assessments. Methods for both formative and summative assessment for the range of attributes are currently available.

2.6 Use of ‘lifelong’ and ‘employability’ qualifiers

We consider whether the attributes required for learning throughout life need the qualifiers “lifelong” and “employability.” In particular, we ask whether the conceptualisation of the attributes has been grounded in a top-down, employer driven perspective, rather than a bottom-up developmental, learner-centred perspective. We raise the possibility that a top-down focus might obscure the importance of teaching the attributes at all age levels. We consider this to be a critical issue given the QSA responsibility for students throughout the whole period of schooling, P to 12.

2.7 Issues of implementation in classrooms

We consider a range of possibilities for why consideration of the attributes continues to be problematic at the practical level of implementation in classrooms. Attention is drawn to a) the somewhat isolated placement of the attributes within QSA syllabus documents, and b) the need to clearly define a pathway for the development of the attributes across all the years of schooling. We draw attention to the large and comprehensive resource of documents that currently exists in the Queensland education system, and ask whether some repackaging might be necessary to make this valuable material more accessible for policy makers and teachers.

We conclude with the reflection that any prescription related to the attributes should manifest and strive to support the values associated with lifelong learning and learning communities.

3 Overview of Part 2

3.1 Different conceptualizations of the place of the attributes in teaching

The teacher workshops revealed that different teachers hold quite different conceptualizations of how the attributes of a lifelong learner should be incorporated in school curricula. Generally the attributes are recognized as being important for all students and most workshop participants felt confident that they could successfully incorporate the attributes into their teaching. However, the ways that such views are translated into practice differ widely.

In some schools the attributes provide the organising principles for the curriculum, so that the Key Learning Areas are seen to provide the means to the end of developing students who have the qualities represented in the attributes. In other schools the attributes are treated in an implicit manner and do not seem to form part of the public dialogue among students, teachers or parents.

These different conceptualizations are associated with quite different treatment of the attributes in classrooms and in assessment and reporting. Schools communities where the attributes are given prominence discuss the attributes, use the attributes in classroom activities, and report explicitly to parents/caregivers on students' achievements in relation to these attributes or qualities. In other schools none of these activities are given prominence.

In making decisions about the future treatment of the attributes, QSA needs to give due recognition to these quite different conceptualizations.

3.2 Valuing the attributes

Many of the participants were unclear about the value the QSA placed upon the attributes. This lack of clarity was associated with wide variation in views about how important it was to give explicit attention to the attributes in schools and about how the attributes should be treated by schools. In addition it was not clear to participants whether QSA valued each of the attributes equally.

3.3 An educational task for QSA

The workshop findings suggest that there is an important educational task facing QSA with respect to the attributes. In addition to clarifying the value being placed upon these attributes, there are needs for, developing an effective set of information about the attributes; conserving and developing a pool of resources related to the attributes; and a program of professional development for teachers. It is not suggested that these tasks should be seen as the exclusive role of QSA, but they are ones in which QSA is seen to have a key involvement.

3.4 Making use of existing resources

Our experience of running the teacher workshops reinforces the conclusion arrived at in Part 1, that there are resources in the Queensland education system that could be used more effectively in further work related to the attributes. The workshops revealed that there a rich resource of experience and practical wisdom related to the attributes in many Queensland schools. This is a resource that could be tapped if QSA moved to undertake some of the educational tasks mentioned above.

3.5 Adapting to different contexts in primary and secondary schools

The discussions in workshops showed that it is important to recognise the different situations of primary and secondary schools with respect to the attributes. Although some secondary schools give great prominence to qualities that are very similar to the attributes, other secondary schools do not. In these latter schools, particularly in the senior years, the burden of assessment associated with the attributes is seen to be a major issue.

3.6 The value of teacher workshops

A strong view emerging from workshop participants was that the workshops, involving teachers from different levels of schooling and different systems, were both interesting and valuable. It is suggested that such workshops could be a key mechanism used by QSA in further development of the attributes.

3.7 Wider teacher perspectives

It must be recognized that, by design, the views reported in Part 2 represent those of a group of teachers who are enthusiastic about, and/or interested in, the attributes. QSA could consider gathering the perspectives of a wider sample of teachers in developing further plans for the attributes.

4 A discussion and review of research related to the Attributes of the Lifelong Learner

4.1 Introduction

The purpose of the first part of this report is to review the theoretical basis for the Attributes of the Lifelong Learner identified in the Queensland Key Learning Area syllabus framework, through an analysis of the use of these attributes in relation to contemporary models of learning and development.

4.1.1 Approach

In order to address the above purpose the paper considers and advances arguments in relation to:

- The current representation of the Attributes of the Lifelong Learner in QSA documents and in literature related to school curriculum frameworks and lifelong learning;
- The view of the Attributes of the Lifelong Learner from contemporary research on learning and development;
- The teaching and assessment of the attributes;
- Features of current representations of the attributes in QSA documents that appear problematic for implementation of the attributes by P-12 teachers and students;

4.1.2 Terms

A number of terms are used in the literature associated with the attributes to refer to closely related concepts. The terms *attributes*, *capabilities*, *skills* and *competencies* have all been used, sometimes interchangeably, to refer to characteristics of the individual that have broad application across learning and working domains.^{1, 2} In this paper, it is not appropriate to develop a detailed analysis of the differences in connotation that attend these terms. Rather, the purpose of this paper is to consider the theoretical status of these terms. Therefore, the term *attributes* will be used to encompass each of the others listed above.

4.2 The idea of (general) attributes of the lifelong learner

Does it make sense to talk of attributes of a learner that have broad application across time and situation? In the literature of lifelong learning and employability skills that has assumed increasing importance in recent decades, it is argued that all learners need to have certain broadly applicable, or general, attributes that are distinct from more specific

discipline or task-related capabilities. The justification is that the great majority of situations in school and work will require the use of such general attributes. Arguments have been advanced that all students and workers need to manifest each of an agreed set of attributes to some extent. Specific situations in school or work will demand more or less demonstration of particular attributes (e.g. Delors³).

A second common justification is that it is reasonable to single out a subset of attributes so that they can be given an educational focus. In the recent history of curriculum design in Australia, and in national and international discussions, strong arguments have been made that certain attributes need to be given special attention (e.g. Mayer⁴).

The position taken in the broad literature on lifelong learning and employability skills is that it does make sense to identify a set of broadly applicable attributes of the lifelong learner. This position is made clear by the continuing use of the attributes in a range of documents in these fields and also in statements related to educational purpose and school curriculum in Australian states. A review of such documents is presented in the next section.

4.3 Current Representations of the Attributes

4.3.1 The attributes and the purposes of education

A central purpose of education is the development of attributes that enable individuals to make an effective contribution to their own development and to the sustainable and moral development of society and of the world that we inhabit.^{3, 5-14} These attributes are both specific and general, the latter being of concern in this paper. In most societies, a vehicle for the achievement of these general purposes is a system of schooling.

Effective development of broadly applicable, culturally significant knowledge is seen as one of the major responsibilities of schooling systems. Just what is to be included in schooling is properly a matter of continuing debate.^{5, 11, 15-25} A central part of the debate is about what should come to be known by all students and what needs to be known only by subgroups that are expected to pursue different lifepaths. It is the former of these, what should be known by all students, that is of concern in any representation of the attributes of the lifelong learner. Concerns about purpose, sustainability, ethical action, citizenship, capabilities in a range of literacies, and for acting effectively in the world seem appropriate.

Societies formalise such educational purposes in policy statements like those agreed upon by international bodies (e.g. Delors³; OECD¹⁰); in reviews of a field like lifelong learning (e.g. Longworth¹²⁻¹⁴); in national frameworks such as the Adelaide Declaration of the National Goals of Schooling²⁶; and in major curriculum documents at the local level, such as those developed by the QSA.^{24, 27-29} Inspection of Table 1 shows that it is relatively easy to relate the attributes identified by the QSA in its syllabus documents to such general purposes of education. The detail set out in Table 2 indicates that considerable overlap also exists between the QSA attributes and the frameworks presented in major international reports and reviews.

4.3.2 Identification of the attributes in curriculum frameworks

Similarly, a broad consensus that these attributes are of significance is shown in policy documents developed by education systems in the Australian states. In Table 3 the QSA attributes are related to the comparable general attributes identified in major curriculum frameworks documents developed recently in other Australian states. So at the level of broad educational policy, internationally and nationally, there is agreement that, (1) education systems should pay attention to the types of attributes that are the focus of the present project; and (2) there is a high degree of overlap in the attributes that are considered to be important for all learners. Although there are gaps in the comparisons in both Tables 2 and 3, the general impression gained from an inspection of the lists of attributes assembled from the international and Australian literature is that there is a broad consensus about the nature of the sets of attributes considered to be important and worthy of focussed attention, including those identified by QSA.

Table 1: Comparison of QSA attributes and purposes of schooling

QSA attributes of a lifelong learner and purposes of schooling

Attributes for endeavours such as paid work; unpaid work, hobbies, leisure activities

communication skills

general literacies (word, number and information)

knowledge and understanding about the domain of endeavour (eg. ICT, mechanics, aquaculture)

an active investigator to develop knowledge in the domain

knowledge of processes for problem solving

domain specific critical reflection for problem solving and creative thinking

confidence and responsibility to take informed action

ethical attitudes and behaviours

personal and group resilience to cope with, adapt to, and grow through, change, ambiguity & diversity

collaboration and mutual growth through interdependence

self and group management and sustainability (e.g. time management; training)

recognising and effectively managing personal and others' emotions

Attributes for personal growth

communication skills

general literacies (word, number and information)

knowledge and understanding about personal well-being (eg. nutrition, spirituality, health care)

an active investigator to develop self-knowledge

knowledge of processes for problem solving

critical self-reflection for problem solving and creative thinking

confidence and responsibility to take informed action

ethical attitudes and behaviours

personal resilience to cope with, adapt to, and grow through, change, ambiguity & diversity

collaboration and mutual growth through interdependence

self management and sustainability

recognising and effectively managing personal and others' emotions

Attributes for interpersonal relationships & citizenship

communication skills

general literacies (word, number and information)

knowledge and understanding about society (e.g. cross cultural understanding)

an active investigator to develop knowledge about other people and society

knowledge of processes for problem solving

critical reflection for problem solving and creative thinking about interpersonal and societal issues

confidence and responsibility to take informed action

ethical attitudes and behaviours

personal, family & societal resilience to cope with, adapt to, and grow through, change, ambiguity & diversity

collaboration and mutual growth through interdependence

self and group management and sustainability

recognising and effectively managing personal and others' emotions

Table 2: Comparison of QSA attributes and literature

Comparison between QSA attributes and prescriptions in the lifelong learning literature							
categories	QSA	OECD (2004)	Mayer (1992)	Longworth & Davies (1996)	Candy (2000)	Delors (1998)	Reid (2005)
ethics							*
research & investigation	*		*	*	*		*
knowledge & understanding	*				*	*	*
information literacy				*	*		*
problem solving		*	*	*			*
action				*	*	*	*
critical thinking	*			*	*		*
adapting to change				*			*
creative thinking	*			*			*
communication	*	*	*	*			*
interdependence	*	*	*	*	*	*	*
cultural awareness		*					*
self-awareness and personal development	*	*		*		*	*
self-management	*	*	*	*			*
mathematical literacy			*				*
technological literacy			*				*
management							
entrepreneurial							

Table 3: Comparison of attributes in different Australian states

	Queensland	Northern Territory	Victoria	Western Aust.	South Aust.	Tasmania
categories	Valued attributes of a lifelong learner	EsseNTial learnings	Essential learning standards	Overarching learning outcomes	Essential Learnings	Essential Learnings
ethics				recognise that everyone has the right to feel valued & be safe, & in this regard, understand their rights & obligations & behave responsibly		being ethical
research & investigation	an active investigator			recognise when & what information is needed, locate it & obtain it from a range of sources & evaluate, use & share it with others		
knowledge & understanding	a knowledgeable person with a deep understanding	a constructive learner	understand the world in which they live	understand & appreciate the physical, biological & technological world & have the knowledge & skills to make decisions in relation to it	understand patterns & connections within systems; world views;	world futures: investigating the natural & constructed world; understanding systems;
information literacy problem solving		a persevering & resourceful innovator			building scenarios of preferred futures	designing & evaluating technological solutions; creating sustainable futures.
action		how can I make a useful difference? A thoughtful producer & contributor. What is possible?	act effectively in that world	understand their cultural, geographic & historical contexts & have the knowledge, skills & values necessary for active participation in life in Australia	taking civic action	acting democratically
critical thinking	a complex thinker			describe & reason about patterns, structures & relationships in order to understand, interpret, justify & make predictions; visualise consequences, think laterally, recognise opportunity & potential & are prepared to test options	thinking: using a wide range of thinking modes; from a range of times & cultures	
adapting to change creative thinking	a creative person	a creative learner		participate in creative activity of their own & understand & engage with the artistic, cultural & intellectual work of others	initiating enterprising & creative solutions	
communication	an effective communicator			use language to understand, develop & communicate ideas & information	communication: understanding the complexity & power of language & data; how communication works; effective use of language; using communication	communicating: being literate, numerate, information literate; arts literate
interdependence	a participant in an interdependent world	collaborative learner: How do I connect with & relate to others? An effective communicator & group member	manage themselves in relation to others	interact with others	interdependence; sustainable social & physical environments; acting cooperatively; relating to others; understanding group & others; social construction of identities	social responsibility: building social capital; understanding the past & creating preferred futures; maintaining relationships
cultural awareness				interact with people & cultures other than their own & are equipped to contribute to the global community	understanding cultural & global connections	valuing diversity
self-awareness & personal development		inner learner: who am I & where am I going; self-directed & reflective		value & implement practices that promote personal growth & wellbeing	identity; understanding self, demonstrating lifelong learning	personal futures: building & maintaining identity; maintaining well-being
self-management	a reflective & self-directed learner		manage themselves as individuals	self-motivated & confident in their approach to learning & are able to work individually & collaboratively		creating & pursuing goals
mathematical literacy				select, integrate & apply numerical & spatial concepts & techniques	effective use of mathematical tools	
technological literacy management				select, use & adapt technologies	effective use of ICT tools	
entrepreneurial					demonstrating enterprising attributes	

4.4 Moving beyond the lists of attributes

The review of educational policy documents that lies behind the construction of Tables 1, 2 and 3 shows that there is a thread of concern about the attributes that spreads across several decades. Essentially similar concerns have been expressed in the early documents associated with lifelong learning (e.g. Faure³⁰), in the Mayer Key Competencies Report⁴, in discussions of employability skills,^{1, 2, 31-36} and in documents leading to the listing of the employability and lifelong learning skills included in the description of the new Queensland Certificate of Education.²⁸

The various listings in Tables 1, 2, 3 identify four categories of attributes:

- attributes that focus on literacies required for different parts of life, such as the multiple literacies and communication;
- attributes that describe processes that can be applied to many tasks in different domains, such as problem solving or planning;
- personal qualities that contribute to the development of agency in the learner, such as self-efficacy, initiative and enterprise; and
- interpersonal skills that can enable the learner to gain value from, and contribute value to, interaction with others engaged in the same or related tasks.

With few exceptions (e.g. Reid⁵), recent listings have not covered new ground. Many appear to have been generated from a re-compilation of previous lists. The earlier listings have been generated from a range of sources, including analysis of literature on learning and analyses of the world of work.³⁷

It is our view that it is unlikely that much more value will be generated for the QSA from generating further similar listings. Rather, it is suggested that educational value will be added to such listings by giving consideration to five matters:

- The foundational theories of learning and development that underlie the attributes;
- Consideration of the teaching and assessment of the attributes;
- Examination of the way that the attributes are represented in QSA policy documents;
- Exploration of possible reasons why the attributes are not a central focus in many classrooms; and

- Exploration of ways in which the attributes are interpreted in classroom learning and assessment by teachers and students. This last issue will be the subject of Part 2 of this project.

When taken together, attention to the first four matters should provide a suitable context for the appropriate development of attributes in classrooms. The lack of such a context for the current lists of attributes may well have contributed to a view that although the general attributes are important, they may not need to be in the foreground of daily classroom attention by teachers or learners.

4.5 Situating Learning

To begin the analysis of the conceptual basis for the attributes, we look at how the attributes are positioned in relation to the environments in which learning occurs.

4.5.1 The learning environment and the attributes

Learning involves the total individual in a total system.^{38, 39} Although each learner has a history, has expectations and beliefs, establishes purposes, has likes, dislikes and feelings, has a network of general and specific knowledge about the world, and has cognitive and metacognitive process resources,⁴⁰ each instance of learning involves a situational context that provides an active frame for the learner's actions. The specific features of each situation have causal influences on the outcome of any instance of learning. This is because the individual and the situation come into interaction during learning. The contextualised nature of learning is recognised by describing learning as a *situated* event.⁴¹⁻⁴⁷

As Siegler³⁹ put it, we can think of each instance of learning as taking place in its own *ecosystem*, a description that is clearly related to transactional models of learning proposed by Dewey and Bandura.⁴⁸⁻⁵³ In an ecosystem, the elements of the system influence each other in a reciprocal or transactional manner. Viewing learning in this way requires that we give proper recognition to the transactional relationship between learner and situation. Acceptance of this view has implications for the way that learning is represented in policy statements and for the actions that need to be carried out by people who have an influence in shaping the learning context (e.g. teachers and employers).

4.5.2 Recognising the situation-learner transaction

The learning situation is never neutral. The outcome of learning *emerges*^{54, 55} from the reciprocal influence of learner and situation. The capabilities developed by each learner will reflect both sets of influences. The learning situation includes a setting, people and resources. The setting could promulgate policies or practices that support, or work against, the espoused purposes of the education system. Parents, teachers and fellow students could be supportive, or critical, or discouraging of learners. The resources available for learning could elucidate or obscure key relationships.⁵⁶⁻⁶⁶

Emphasis on the attributes of learners without consideration of the nature of situations, such as the situations established in classrooms or work environments, will be one-sided and therefore unsatisfactory.

Because learning is a situated activity, in any analysis of learning and its outcomes, it is inappropriate to represent only the influence of the learner attributes and not to consider the characteristics of the situation.

4.5.3 Environments that support the development of learner attributes

Recognition of the situated nature of learning, of the need to consider learning in context, implies that educational systems, schools and employers must accept responsibility for providing environments conducive to the use of valued learner attributes. In turn this suggests that a representation of the attributes will be problematic if

- the impact of the situation is not recognised in both policy and in the way that the policy is enacted; and
- responsibility for outcomes is assigned solely to the learner and is not seen as a being a property of the learner–situation transaction

Further consideration of the importance of the situated learning perspective suggests that it is sensible to consider the characteristics of a learning environment that could facilitate the development of the valued attributes of a learner. It is not difficult to propose such characteristics. The characteristics identified in the following set of questions provide a useful starting point for analysis of an environment for learning. For example, does the environment for learning

- Provide an opportunity to exercise personal choice/ initiative/investigation?⁶⁷
- Pose a level of challenge, some degree of risk-taking?⁴⁰
- Provide for and encourage collaboration?⁶⁸
- Require effective communication?⁶⁹
- Provide time for practice⁷⁰ and space for deep thinking?⁷⁰⁻⁷²
- Encourage and value self-direction, evaluation and reflection?^{73, 74}

Consideration of these questions should serve as a stimulus to question whether representations of the attributes give adequate recognition to the influence of the situation. This recognition should be made in statements of policy and should inform the design of teaching programs. The same argument can be made for those employment situations where employers value the attributes of lifelong learning and expect employees to display these attributes.

4.6 The View from Research on Learning and Development

Although there is no single agreed theory of human learning, there is a reasonable degree of consensus about a general framework for learning (e.g. Bransford, Brown and Cocking⁴⁰) In our view, this general framework is broadly supportive of the importance of most of the attributes of lifelong learning that are recognised in QSA documents. (The term ‘most’ in the previous sentence recognises that discussions of entrepreneurial activity are rare in research literature on learning and development.) In making this broad claim we do not suggest that there is a lack of argument about specific characteristics of learning or of learners, or that there is no argument to be raised about the QSA list of attributes. Rather, we propose that there *is* a strong conceptual basis upon which to develop both policy and practice related to the QSA attributes. In the following statements about learners we sketch an outline of the understandings about learning that provides a basis for explicit recognition of the attributes.

4.6.1 Learners are situated beings (but must be able to move beyond the situation).⁴¹⁻⁴³

We repeat this argument here to make one additional point about the relation between the learner and the learning environment. Learners exist in specific situations, and their learning and the outcomes of that learning, are always impacted by the situation. However, although the actions of the learner are impacted by the situation, learners must at times be able to be independent of specific situations. For transfer of learning to occur learners need to be able to extend, or abstract, their knowledge beyond the situation in which that knowledge was first developed.⁷⁵

Recognition that transfer of learning requires some level of abstraction from the situation of initial learning must be explicit in representation of the attributes of the lifelong learner.

4.6.2 Learners are social beings.^{45, 46, 68, 76-80}

People learn through and from their interactions with other people.^{52, 80} Learners’ actions, and the knowledge that underpins those actions, is influenced by their social nature. It is necessary for learners to be socially able so that they can gain the benefits of social interaction that might arise, say, from classroom discussions between a teacher and a student or among a group of students. Learners need to know how to interact with others to benefit from the interaction and so that they can contribute effectively to the work of the group.

Representation of the attributes of the lifelong learner should recognise the social nature of the learning of both the individual and the group.

4.6.3 Learners are affective/emotional/motivational beings.^{56, 63, 81-84}

Learners approach all learning activity with a set of inter-related dispositions⁸⁵ and motivational expectations. These dispositional states orient a learner to a situation or a task, or to other people, and vary in their range of influence and their susceptibility to change (for example, personality^{64, 86}, optimism⁸⁷ and resilience.⁸⁸)

Research on motivation and affect has indicated that personal involvement, intrinsic motivation, and commitment contribute to greater learning.^{81, 89} Learners who have positive self-concepts⁹⁰, who believe themselves to be in control of their learning^{67, 91-94}, and who have goals directed towards understanding rather than performing^{81, 95} are more likely to have higher levels of achievement in schools.

The findings from contemporary research on motivation support a view of motivation as multidimensional—not as an undifferentiated state.^{74, 89, 95-97} Learners develop knowledge about different dimensions of motivation: about goals, expectancies and self-efficacy, about value and incentive, and about attributions of cause for their successes and failures in achievement situations^{51, 52, 57, 59, 98}. Knowledge in these different dimensions influences the nature of the learner's future engagement in learning.

Representation of the attributes of the lifelong learner needs to recognise the dispositional characteristics of learners and the multidimensional nature of the motivational states that facilitate or inhibit action.

4.6.4 Learners are cognitive beings.^{52, 71, 77, 99-103}

In their attempts to understand the world, learners represent that world and develop and transform these representations. Cognitive representations vary in the range of their influence and their susceptibility to change, (e.g., world view, cultural assumptions, task schema). As learners develop and transform their representations into deeper, more powerful configurations, they come to understand more of their world more precisely, and so can apply their knowledge more widely during problem solving. These cognitive representations are organised structures—knowledge schemas—that affect both what is noticed and selected and the type and extent of transformation that occurs.

Learners use a range of processes and strategies to carry out the transformation and to retain and use the results of the transformation. They develop strategies that can be applied across a wide range of tasks; strategies for attending, for analysing given information, for selecting important details, for elaborating and for relating new information to their prior knowledge, for organising knowledge, for carrying out searches of their knowledge, and so on. Sequences of these strategies can be assembled to provide learners with procedures that will be useful in problem solving. The success of cognitive interaction with the world is affected by both the quality of the knowledge schemas that are available and by the ways that these schemas are used when cognitive strategies are applied.

Representation of the attributes of the lifelong learner should recognise both the valued prior knowledge known by students and the active transforming processes and strategies used by the individual, and by groups, to establish meaning and solve problems.

4.6.5 Learners are metacognitive beings.¹⁰⁴⁻¹¹²

Learners develop knowledge about themselves as learners and use this as they plan, monitor and reflect upon their actions and their current situations.¹¹³ Metacognition, or thinking about thinking, is a key factor in self-regulated learning. Metacognitive knowledge and metacognitive action enable learners to reflect on problems that arise in the situations they experience. Learners can monitor and control their performance as they attempt to achieve their desired learning outcomes by planning, by checking progress toward the goal, by modifying their plans or changing their strategies.

Representation of the attributes of the lifelong learner should recognise the importance of metacognitive knowledge and metacognitive monitoring and control in learning.

4.6.6 Learners are developing beings.^{82, 114-117}

Several major theoretical perspectives on how learners change across time are implicit in the preceding descriptions of learners. Arguments about the influence of situation and social group reflect the influence of the theories of Vygotsky^{118, 119} and Piaget.^{120, 121} Discussions of cognitive processing build on the results of research reviewed by Anderson,⁷¹ Bruning and colleagues,¹⁰⁰ Bruner,¹²² and Siegler.³⁹ Analyses of metacognition by Flavell,¹⁰⁶ Brown,¹⁰⁹ and Lawson¹⁰⁷ have influenced our views on cognitive and metacognitive development.

More recent work arising within the developmental systems approach to children's development suggests a process of epigenesis—the emergence of new structures and functions during the course of development. New structures do not arise fully formed, but are the result of the bidirectional relationship between all levels of biological and experiential factors.⁵⁵ This analysis suggests that although we see many of the valued attributes of lifelong learning being used early in life, there are subtleties in the course of development of the attributes that need to be taken into account in designing learning environments. These attributes can be nurtured, or inhibited, by the different environments which children experience. For example, at an age when children are being inventive about addition strategies³⁹ it is also possible for the early school environment to interfere in a negative way with children's understanding of addition.¹²³

Children's self-estimates of competence are one example of such age-specific adaptive behaviours. Many preschool and early school-age children commonly overestimate their own competence, thinking that they are smarter, stronger, and generally more skilled than they really are.⁵⁵ Such overestimation need not be maladaptive. Bandura⁵¹ made a direct

link between the level of confidence that a person has about one's own ability in a particular domain and whether s/he chooses to perform and persist at tasks in that domain. Therefore, children who think they are skilled in a domain are likely to attempt more challenging tasks and stick at them longer than less confident children. This in turn will affect learning outcomes.

However, overestimation of competence at later ages may prevent students from appropriate help seeking, may blind students to their errors, and may set students up for failure.^{124, 125} For example, in a study of learners' self-generated explanations while solving physics problems, Chi, Bassok, Lewis, Reimann and Glaser¹²⁴ found that an important difference between good and poor problem solvers was the students' ability to accurately monitor their own comprehension and misunderstanding. (See also Pressley^{126, 127}) An adaptive consequence of recognising one's own misunderstanding is to generate a search for improved understanding. Of course, failure to recognise misunderstanding will leave the search for correct understanding undone. Such metacognitive monitoring continues to develop across the years of schooling.¹²⁶

There are also developmental differences in children's capabilities in establishing effective social relationships that are of relevance for the attributes that focus on social skills. Such areas include group affiliation and in-group favouritism, fear of and hostility towards strangers, within-group status seeking; and seeking and establishing close dyadic relationships. Social complexity characterises the life of children⁵⁵ and social developmental tasks differ across childhood.⁸² Denham and colleagues⁸² also argued that various aspects of children's developing emotional competence are critical for social interactions and relationship building with parents, peers and friends. As children mature, they develop emotional competence that in turn facilitates the development of interpersonal relations.⁸²

The general point is that learners at different stages of development will have different capabilities and readiness for developing the attributes of a lifelong learner.¹¹⁴ These differences need to be taken into account in the design of instruction. For example, when younger learners are likely to be over-estimating their competence, it may be inappropriate to give priority to more long-term goals such as accurate monitoring of performance, if doing so acts to deter students' risk-taking. Similarly, in the early stages of emotional regulation and social development, it may be inappropriate to insist upon the types of interdependence and communicative skills that are the attributes of an older learner. As children mature they need to develop new or different skills and relationships that are responsive to changing environmental demands

So from an early age there is evidence of use many of the attributes that are valued in the lifelong learning literature. The attributes that are the focus of this paper are not just late developing ones that appear at a time when adolescents are making a transition from school to work. The attributes are present at an early age and can be nurtured, or inhibited, by the curriculum and learning environments which young children experience.

People designing environments for learners of different ages need to be sensitive to the ways in which the attributes changes across time.

Representation of the attributes of the lifelong learner needs to recognise the early emergence of the attributes and to be sensitive to the developmental characteristics of learners.

4.7 Representing the learner as an integrated being

Although for purposes of analysis and description we focus on specific features of learning and learners, such as cognitive or metacognitive activity, the learner always acts as an integrated whole. For example, in a discussion of problem solving, Mayer⁶¹ argued that three components of the learner—*will*, cognitive *skill* and *metaskill*—are always involved. When developing policies or procedures for learning at school or at work, if we leave out parts of the integrated learner, say dispositions, or beliefs, or prior knowledge, or learning skills, or social skills, we run the risk of writing policy that is incomplete, or of enacting teaching procedures that will not achieve the desired outcome.^{9, 128} Lack of concern for any one part of the integrated learner could act to inhibit the extent of transfer of learning to new situations. For example, ignoring a student's motivational knowledge might cause the best metacognitive instructional program to fail.

Because learners act as integrated systems, in any analysis of learning and its outcome, it is inappropriate to represent only the influence of some of the learner attributes.

4.8 Recognising the connectedness of learning

The total system imperative also holds within particular spheres of learning actions, for example, cognitive activity. Learners do not come to a learning situation with neatly packaged knowledge sets, say a set of declarative knowledge about a particular task, and a separate set of procedural knowledge of broadly applicable skills. A learner's knowledge comes as a connected structure, even if it is not very well developed or very tightly integrated, or even very accurate. In teaching, if we do not recognise that the attributes are part of a connected knowledge structure we could limit the extent to which the learner develops and uses a particular knowledge construction.^{15, 71, 100} For example, highly developed problem-solving skills may not be used effectively in a group situation if a learner does not know how to collaborate with other learners.

Because the attributes are part of a connected structure, in any analysis of learning and its outcomes, it is necessary to consider the inter-related nature of learner attributes.

4.9 The case for identification of the attributes

On the basis of the preceding discussion we suggest that the research literature on learning and development provides a strong basis for identifying a set of broadly applicable skills that have importance across the lifespan. A review of this and other educational literature, suggests that the attributes identified in the recent QSA literature have a reasonable claim to be regarded as important for student achievement:

- Discussions of educational purposes give emphasis to *ethics, cultural awareness, basic literacies, communication and interdependence*.
- Discussions of literature on learning and development recognise the importance of *research and investigation, of deep knowledge and understanding, problem solving, and creative and critical thinking*.
- Discussions of metacognition make clear the importance of *self-management*.
- Discussions of motivation recognise the importance of *self-awareness and personal development, adapting to change and action*.
- Discussions of the social nature of learning emphasise the importance of *interpersonal, collaborative and communication skills*.

Although there is less concern with the role of employability skills in the educational research literature associated with the school years, such skills are grounded in the discussions of broad educational purpose.

A different way to argue for the importance of the attributes is to consider the likelihood of achieving the valued purposes of education *without* the development and expression of the attributes. We engaged in such an exercise by seeking answers to questions such as the four that follow:

- Could individuals develop a sense of moral purpose or ethical behaviour if they were unable to be *reflective*, or were unaware of the *interdependence* of the different components of the world we inhabit?
- Could learners develop capabilities to address the problems faced by individuals or societies if they could not develop *deep understanding* of, or think *critically* about, themselves or the world?
- Could learners develop agency and capability if they could not *research*, or act in a *creative* manner, or show *initiative*, or lacked the basic *literacies* important in the current world?
- Could individuals help sustain our world if they could not *communicate* with others or *collaborate* with them?

Our ‘No’ responses to these questions reinforced the view that the attributes are important for learning.

These statements of support for the attributes identified in QSA documents should not be interpreted as arguing that all learners need to be characterised by these attributes in all of their learning. Rather, learners need to be able to show these attributes in situations where it is appropriate to do so.

But the lack of recognition of the *situated* nature of the learner, of certain characteristics of *self-regulation* of learning such as *motivation for learning*, of the *metacognitive* aspects of learning process, and of the *differential developmental* functionalities of certain attributes, are significant limitations of the QSA (and other) syllabus representations. Although we are reluctant to add to an already sizeable set of attributes, given the opportunity to do so, we suggest that future representation of the attributes needs to take account of the items in Table 4. Table 4, takes a transactional, learner-centred⁹⁶ and systemic³⁹ approach, and reinforces a focus upon the attributes that a learner requires for learning and for developing an identity as a successful learner.⁹

Table 4: Possible additions to the current QSA representation of attributes of the lifelong learner

Attribute	Expansion of suggested addition
Awareness of purpose and of self	Awareness of adaptive dispositions for learning and action
	Ability to recognise and manage the positive and negative emotions associated with learning
	Awareness of the importance of desire to learn
	Awareness of self-efficacy states
	Awareness of adaptive attributional patterns for success and failure
Knowledge of how to learn	Knowledge about effective learning strategies and conditions for their use
	Knowledge of how to regulate and monitor learning.
	Knowledge of how to manage resources for learning.
Interdependence	Knowledge of how to interact with others in learning for individual and group purposes.
Situatenedness	Appreciation of the impact of situations upon the construction and applicability of knowledge
Personal qualities	Persistence and resilience
Developmental characteristics	Awareness of the change in attributes across time

4.10 Teaching of the Attributes

The preceding discussion assumes that it is possible to teach the attributes. This assumption is explicit in the arguments made about the influence of the situatedness of learning and in discussions of how learning environments can influence development and expression of the attributes. But not all commentators on the attributes make this assumption. A recent Allen Consulting report for the QSA³³ raises a doubt about whether “the attributes and dispositions can be taught” (p. vii). So it is important to consider this issue.

4.10.1 Teaching about the attributes

The attributes that are the focus of this paper are not different in character to other, more specific capabilities of learners. When we are discussing attributes, we are discussing states of a learner. For example, we say that a learner has developed a state of deep knowledge, or is in a state of positive self-efficacy, or activates a state of reflection on past action. These states are of the same order as other descriptions we have of learners, such as that learners know about (or have stored knowledge about, or have acquired knowledge about) division of fractions or the Baroque period in music. When we talk of the development of skills or competencies or capabilities or attributes we are indicating that the states of the learner are changing (developing). A major part of this change in state is a change in the declarative, procedural and conditional knowledge of the learner.^{71,}

¹⁰⁰ Thus, when commentators note that “lifelong learning and employability skills...are learnt, developed and demonstrated in particular contexts for particular purposes” (p. vii)³³ they are agreeing that knowledge states are changing. We find it odd that if these skills can be learnt and developed that they would not be able to be influenced by teaching. Indeed it is puzzling why education systems would be exhorted to allocate time and resources to the attributes if they were not able to be taught.

We take as a fundamental principle that change in a learner’s cognitive states can occur through teaching. Teaching is a powerful influence on learning outcomes.¹²⁹

Research in the area of study skills training provides one source of evidence about how such teaching effects might occur, and how powerful such teaching might be. For example, Hattie, Biggs and Purdie¹³⁰ found that strategy training interventions related to knowledge and understanding and those related to affective factors in learning were both associated with improvements in student outcomes of about half a standard deviation, which is regarded as an effect that is of practical significance in educational research. This finding is of interest because it provides evidence illustrating the extent of the effect that teaching of attributes included in the QSA list can have on student performance.

In describing the attributes in terms of knowledge, we want to give emphasis to the argument that policy makers, teachers and learners need to develop declarative, procedural and conditional knowledge about all of the attributes. For example, we need to

know what collaboration involves, how we can collaborate, and when we should collaborate. We need to know what research involves, how we can carry out the research, and when particular research procedures are best used. Similarly, the recent work undertaken by Curtis¹³¹ on problem-solving makes clear that explicit specification of the nature of problem solving is an important and substantial task for teachers who are devising ways to assess problem-solving competence.

Therefore, some important work on the attributes will require the use of the available research and pedagogical literature as resources to enable the development of finely differentiated descriptions of the declarative, procedural and conditional knowledge related to each attribute. For many of the attributes a rich set of such resources is already available.

4.10.2 Teaching for transfer

A key purpose of education is the transfer of learning: the extension of learning from the situation of initial learning to new situations where the use of newly developed knowledge is relevant.¹³²⁻¹³⁵ Transfer of learning from school to work and to other parts of life, or from general capability to specific domain application, is one of the desired outcomes associated with all of the attributes. This begs the question of whether it is possible to teach for transfer.

There is evidence that we can teach for transfer. Recent research has shown substantial transfer effects.⁴⁰ For example, Mayer¹³⁶ reported substantial effects of transfer in a series of about 40 experiments. Fuchs and colleagues¹³³ showed that far transfer effects could be obtained by explicit teaching for transfer, including teaching students to abstract problem features (deep understanding) and teaching them to be metacognitive (reflective) and by simply alerting them to the nature and possibility of transfer. Fuchs' work is interesting because it makes clear that transfer is not a mysterious process that cannot be addressed directly. Rather, transfer of learning across significant situational distance can be achieved. Students need awareness that research and investigation, critical thinking, problem solving and self-management can help them to take their learning into different task situations, and also need to have had experience in effecting such transfer, perhaps through explicit teaching. Where this happens students will use the attributes to help themselves extend their learning: the attributes will help them overcome the constraints of the original learning situation.

The role of the broad capabilities as vehicles for transfer also needs to be seen within the situative perspective. Transfer will not necessarily occur unless the situation is conducive. Thus the student or worker who is able to display far transfer, may not do so if the learning or work environment does not encourage, or actively discourages, such capability (e.g. an environment that does not encourage student or worker initiative).

4.10.3 Teaching of dispositions

There is a large body of literature that supports the argument that dispositions can be taught and learned. In broad theoretical terms, Bandura's^{51, 52, 77} social learning theory explicates the role of modelling and observational learning for people's adoption of states of cognition and behavioural patterns. Specifically with regard to dispositions, the research literature on attributional retraining provides examples showing that dispositions to attribute cause in a maladaptive way can be changed through explicit teaching.^{64, 137-141} The aim of such teaching is to bring about changes in motivational knowledge and action, and, in a more general sense, to change a student's disposition. The work of Dweck⁶⁴ also shows that changes in disposition are possible. Indeed for many students, a key part of the impact of teaching is likely to be concerned with changes in motivational knowledge, such as in the judgements students make of their self-efficacy. Self-efficacy and self-regulation can be enhanced through explicit instruction^{51, 142, 143} as is made clear in the following quotation

Parents and teachers who provide children with challenging tasks and meaningful activities that can be mastered, and who chaperone these efforts with support and encouragement, help ensure the development of a robust sense of self-worth and of self-confidence. Early mastery experiences are predictive of children's cognitive development, and there is evidence to suggest they work independently of critical variables such as socioeconomic status^{141 P. 23}

4.10.4 Explicitly teaching knowledge about learning and teaching

Recognition of the importance of the attributes raises the question of whether the attributes themselves are known about explicitly and are able to be used appropriately by the learner. Learners need to have broad and explicit knowledge about teaching and learning,^{144, 145} and this includes knowledge of how to use the attributes both when they are learning in a classroom and when they are teaching themselves during independent study. Such knowledge of learning and teaching has a mediating role in the teacher-learner interaction.¹⁴⁶⁻¹⁴⁸ Learners also need to have detailed knowledge of teaching purposes and strategies, in order to allow them to make good use of the teaching actions of teachers or of designers of texts, software and so on.^{104, 105, 112, 145, 149-152} Such knowledge needs to be functionally available, not just implicit. Making knowledge explicit means being able to consciously report it, discuss it and modify it where necessary.¹⁵³ Being able to use the knowledge appropriately requires proceduralised and conditional knowledge that has been well practised and used frequently in a variety of appropriate situations.^{40, 71, 135, 154}

When students have such knowledge about teaching and learning, the benefits for their self-regulated learning about topic domains can be considerable^{61, 130}. For example, Luyten, Elen and colleagues^{104, 105, 149, 150}, who investigated college students' metacognitive knowledge about instruction and instructional environments, found a

significant positive relationship between the sophistication of students' perceptions of instructional tasks, and their planned and executed learning activities.

To effect substantial transfer of learning, both teachers *and* their students need to have a good understanding of contemporary learning theory. And in order for teachers to develop their students' knowledge about learning, teachers need information about the state of their students' knowledge about learning.

In this respect, knowledge about teaching and learning of the attributes of the lifelong learner will need to be made explicit for teachers and students as part of the knowledge that is valued in the curriculum.

4.10.5 Valuing what is taught through assessment

Teachers and students value what is assessed.¹⁵⁵⁻¹⁵⁷ In this respect assessment is an important driver for learning, because the nature of the assessment makes explicit the key tasks that need to be undertaken by the learner. If the attributes become the focus of explicit assessment requirements their status will change. The decision to make the attributes the subject of explicit assessment is more problematic than is the way to carry out the assessment. It is possible to assess the attributes: Teachers and parents do this informally, as evidenced by their talk about students' attitudes, motivation levels, levels of involvement, willingness to do more than the basics, interest levels, and so on. Employers do this, such as in the practicum reports prepared by supervising teachers that are used for the employment of teacher education graduates¹⁵⁸ and in the other references employers provide for their employees. In addition, there is a wide range of formal assessment instruments available for assessment of efficacy, attributions, collaboration, attitudes, problem-solving, knowledge of thinking/deep learning.^{64, 159-162}

Also problematic is the way in which information derived from these assessments should be taken into account. In this respect, there is unequal treatment of the attributes. Some are already embedded appropriately in formal assessments, such as critical thinking and deep understanding. A student who achieves a satisfactory standard in a learning area will need to use these attributes to achieve that standard of performance. These assessments make direct contributions to high-stakes assessments in school. Other attributes such as interdependence, self-management and communications do not make such direct contributions to quantified assessment information, though they may well be an important part of the qualitative comments in a reporting system. And personal attributes, such as interpersonal skills, might implicitly influence teachers' assessments of students' subject-matter competence.¹⁶³

A possible way forward is to provide sound assessment information on all of the attributes across schooling as part of a reporting portfolio.^{34, 73} Scales for the assessment tasks could be organised in the manner set out in the recent report by the Allen Consulting Group³⁴ and some schools in Queensland already provide this information in reports to parents. The onus would then lie with the end users of the portfolio to make use of the information

that most suits their needs. For example, teachers, parents and students in all years of schooling could use the contents of a portfolio as a formative assessment tool to provide information and directions for new learning. A university might give greatest, or even sole, weight to summative topic-content knowledge assessment information. If we take at face value the views of employers on the importance of the employability and lifelong learning skills,²⁸ then an employer is likely to give significant weight to assessment indicators relating to initiative, enterprise, and so on.

To be useful and meaningful, assessment of the attributes does not have to be a central component of a high-stakes assessment such as a public examination in the senior years. Consideration of the developmental perspective described earlier suggests that assessments of the attributes should start in the early years of school. Such assessment can be both formative and summative, and the simple scales proposed in the Allen Consulting Group report would be easily adapted for such purposes. Explicit concern with assessment of the attributes should generate more explicit attention to the attributes by teachers, students and parents.

4.11 Issues Associated with Current QSA Representations of the Attributes

4.11.1 Should the ‘lifelong’ and ‘employability’ qualifiers be used when describing general attributes of learners?

The qualifier ‘lifelong’ is used primarily to draw attention to the fact that learning continues beyond the period of formal education^{3, 10}. The OECD, which has been a major proponent of lifelong learning over several decades, argued that

“In a systemic strategy, learners at each stage of life need not only to be provided with opportunities for learning, but in a manner that equips and motivates them to undertake further learning, where necessary, self-organised and directed.”¹⁰

In this lifelong learning perspective, the period of formal schooling is important in that it prepares individuals for later learning. A major imperative for this later learning is an economic one: to support sustainable development. However, the importance of schooling as a preparation for post-school life needs to be kept in proper perspective: The whole period of compulsory schooling is also an important phase of learning in its own right.

Juxtaposition of the ‘lifelong’ and ‘employability’ qualifiers for the attributes in the QSA documents could act to encourage teachers and students to see these attributes as applicable only, or largely, to work environments. The employability skills label might be seen as referring to attributes that are not of concern in earlier school years. If this occurred, it would be a negative consequence of use of these qualifiers. In this regard it might be informative for QSA to explore the interpretations of these qualifiers held by P-12 teachers, to see if there were differences in the ways that the attributes were valued across the year levels.

From both situative and developmental perspectives, the more specifically employment-related attributes should not be expected to be fully developed at the end of schooling. Work presents a new, different set of constraints and affordances, and employers must accept their responsibilities to provide environments that support the development and use of the attributes. There is evidence that informal assessments of capabilities in workplaces do have direct consequences¹⁶⁴ and that the situation of work provides the most appropriate environment for some aspects of capability development.^{165, 166}

An additional constraint is that a tension may exist between the corporate values of the workplace and the broad purposes of education.¹⁶⁶ Specific attributes may be valued differently in the two situations. For example, although there is much to be gained for learning through cooperative action, much of current schooling in the senior years encourages an individual focus that is generated by norm-referenced judgements of capability. In contrast, although individual progression in the workplace may depend on individual capability, it will also be influenced on ability to engender collaboration to achieve a common goal. Similarly, there are different emphases in the action orientation of business and the academic search for nuanced understandings.¹⁶⁶ It may also be the case that the emphasis placed on the need for research and investigation to develop deep understanding in school is not always valued in specific work situations. So there may well be a disjunction between worlds of school and various worlds of work with respect to the expression of some attributes.

If the QSA representation of the attributes is solely, or largely, in terms of post-school life it is unlikely that they will be a major focus of attention during the earlier school years. It is important, therefore, to emphasise the development of the attributes across the P-12 period, and not to represent them as only applicable to the final years at school, when the student is about to change into an employee.

Redescribing the attributes as “attributes of a learner” might act to direct the attention of teachers in the early and middle years of schooling more effectively. This will emphasise that these are capabilities that apply to all learners.

4.11.2 Why is there continuing concern about classroom use of the attributes of lifelong learners?

The recent history of the attributes associated with lifelong learning is about four decades old. The research and policy literature reviewed for this paper shows that in both the international and Australian contexts the importance of these capabilities has been reiterated many times. Why then are the attributes the subject of continuing investigation?

An answer to this question that deserves serious consideration is that these attributes, as a whole, have not achieved a level of practical importance for teachers that makes them the focus of explicit, continuing attention in everyday teaching and learning. If they had achieved such practical importance, the status of the attributes would not be in doubt and their place in the functional curriculum would not be questioned.

So it is relevant to consider possible reasons why the attributes, that are acknowledged to be of theoretical and practical importance in various literatures, have not ‘made it big’ in school classrooms. We propose four related possibilities consideration of which might make a contribution to further understanding of the current situation in future research. These possibilities also raise questions about how the attributes should be represented in the immediate future for students and teachers.

Possibility 1: “We already do that!”

It may be that teachers and students regard these attributes as being implicit, or embedded, in other learning, so that it is not necessary to give them explicit attention. For example, teachers and students may believe that if they solve problems in a specific content domain like biology or art they will develop knowledge of problem solving that is transferable to all other domains. Therefore, even though the attributes are necessary, teachers may not give them appropriate time and space in the curriculum, or draw explicit attention to them, or make them the topic of explicit teaching¹⁶⁷.

A contrary view is that expertise related to the attributes, say expertise in problem solving, is developed through the combination of well-developed subject matter knowledge and the development of explicit knowledge about problem solving and problem-solving procedures.^{40, 70, 128, 168-170}

In relation to this contrary view, arguments exist for explicit teaching about the attributes.^{166, 167}

Possibility 2: “We don’t need to do that yet!”

It may be that the attributes are considered to be necessary across the lifespan, but not all are regarded as being necessary at all stages of education, or are seen to be of equal importance at each stage of education. This possibility must be entertained, especially given that some of the attributes are labelled as employability skills. As noted, this may be taken by teachers as a sign that such capabilities are only of significance in the upper secondary years of schooling and beyond.

A contrary, developmental perspective suggests that the attributes are developed and are of significance across the lifespan.

Possibility 3: “You can’t fail the attributes!”

In this view the attributes are regarded as of peripheral concern for purposes of assessment and reporting. In the literature associated with the attributes we have not discovered a suggestion that a student would be ‘failed’ in a high stakes school assessment due to a lack of display of one or more of these attributes. Therefore, the attributes could be seen by teachers as mediating variables that do not need to be regarded as outcome variables, or objects of outcome assessment. This lack of formal outcome

assessment could therefore act to lower the importance and value of the attributes for teachers and for students.

A contrary view has been set out in the recent report on the assessment of the attributes by the Allen Consulting Group.³⁴ This report indicates that procedures such as portfolios could be enacted for assessing and reporting the attributes. Similarly, more traditional methods such as professional observation by well-trained teachers, and teachers' conversations with students about what they know,¹⁷¹ should not be discounted.

Cohen¹⁵⁶ reported large effect sizes for improved learning outcomes when instruction matched assessment. Cohen,¹⁵⁶ Shepard,¹⁷²⁻¹⁷⁴ Biggs¹⁵⁵, and recently, Shavelson¹⁷⁵ called for assessment to be an integral part of instruction, where assessment performs the role of identifying students' current knowledge with a view to designing programs of instruction that allow students to construct new knowledge.

A contrary position is that for the attributes to be valued by teachers or students, they need to be valued through formative and summative assessments.

Possibility 4: “Which list of attributes, and how do we use it?”

Although the importance of the attributes has been acknowledged in statements of aims and purposes of schooling, it is possible that they have not been presented in ways that have meaning for teachers, who are ultimately responsible for constructing learning environments for students. One way to address this possibility would be for teachers to develop appropriate year-level exemplars of ways to present and work with of the attributes.

By the time the attributes reach a teacher's desk, they may well be seen as ‘just a list’ that lacks a supporting context and bears no apparent connection to an underlying curriculum framework or theory of learning and development. The format of presentation of the attributes is important. In the current QSA Year 1-10 Level syllabus statements, the description of the attributes is presented before the details of the content that will be covered in the learning area. The physical separation of these two important parts of the curriculum may give strength to some of the earlier possibilities noted in this section. Teachers may regard the ‘really important’ part of the syllabus as that which follows the introductory section that describes the attributes.

An additional consideration is the consistency of the representation of the lists of attributes as students progress through the Year levels P to 12. Table 5 maps the presentation of the QSA attributes in QSA and Education Queensland documents. It can be seen that although there is a significant degree of overlap in these documents as they relate to the attributes,^{24, 28, 29, 176} there is also lack of overlap in some parts, and the lists give little sense of a developmental pathway. A teacher might reasonably ask, “Which is the ‘real’ list?”

For the attributes to be connected to the overall syllabus framework, they need to be represented in an integrated way, both within each syllabus document and across the developmental progression of syllabus documents.

4.12 The challenge of representation

We see each of the above four possibilities as making a contribution to the continuing concern about the status of the attributes. If our view is near the mark, then the possibilities present the QSA with substantial challenges. Decisions about assessment are likely to be of major practical importance. If assessment of the attributes becomes a priority, then further explicit specification of the attributes will be necessary, and they will become the subject of explicit teaching.

The QSA has access to a rich set of documents that can be used in addressing some of these challenges and it has commissioned research that will address others. The documents that we refer to are the ones that underlie the content of Table 5. These documents could be used as a starting point for generation of ways to represent the attributes in structurally clear and developmentally appropriate ways. The involvement of teachers in further consideration of the attributes, what the attributes mean, and how they can be used, is suggested as a high priority for QSA.

Table 5: Comparison of attributes in Queensland documents

categories	QSA seven ALL	The QSA Early Years Curriculum Guidelines : 5 learning areas	The Queensland Certificate of education: Expect Success statement	New Basics Project Education Queensland (condensed from repertoires of practice - third suite)
ethics				
research & investigation	An active investigator	Investigating and understanding environments		Focussed research
knowledge & understanding	A knowledgeable person with deep understanding			Understanding; Appreciating; Explaining; Acquiring a broad range of knowledge; Studying and memorising; Identifying; Sequencing
information literacy			Literacy	Organising, sifting, arranging, making sense of ideas and data; writing; recording/noting ; Recognising the emotional and intellectual impact of famous speeches; • Reading and interpreting
problem solving			Problem-solving	Problem-solving; making recommendations and justifying them
action				Applying; Developing action plans; Monitoring and suggesting modifications; Testing strategies; Adopting strategies; Exploring; Developing (an audience)
critical thinking	A complex thinker			Analytic skills; evaluating; extrapolating; visualising; selecting, sequencing, analysing and synthesising; sifting; determining the relevance of evidence; interrelating ideas/themes/issues; comparing and contrasting ideas/information
adapting to change				Revising goals in the light of experience
creative thinking	A creative person	Creating and designing		Composing; creative production
communication	An effective communicator	Communicating	Communication	Translating; utilising language; expounding a point of view; interviewing; being at ease in front of an audience; gesturing in speech-making; presenting a lucid argument; structuring/organising extended spoken text; using a broad range of knowledge and language to convince and evoke; applying the conventions of quoting, citing and referencing; adopting some loan words that are used universally; persuading; responding; utilising another language
interdependence	A participant in an interdependent world	Social living and learning.	Team work	Dealing with interdependency; liaising; negotiating roles and responsibilities; giving acknowledgment; reflecting on the positions and opinions of others
cultural awareness				Appreciating differences; understanding the development of mathematics across cultures; applying intercultural understandings
self-awareness and personal development	A reflective and self-directed learner	Sense of self and others		Goal-setting and planning; consulting; identifying and utilising support structures and agencies; identifying opportunities for self-development; understanding and describing self
self-management	A reflective and self-directed learner		Capacity to learn independently: self-management	Time management
mathematical literacy			Numeracy	Estimating quantities; graphical communication; measuring; scale-drawing; flowcharting; presenting complex ideas textually and graphically; appreciating the methodology of the various branches of mathematics; substituting in formulae
technological literacy			Information literacy, including ICT (information and communication technology)	
management			Planning and organising	Project management
entrepreneurial			Initiative and enterprise.	Knowing and utilising the language of business and employment; understanding local and global forces on the labour market; résumé writing

4.13 The creation of a learning culture

Teaching for powerful learning must be concerned with the creation of a learning culture.^{8, 41, 46, 177-182} If lifelong learning is a system imperative, the system needs to work at bringing the elements of its culture into ‘constructive alignment’.¹⁵⁵ This means working towards alignment of the values and commitments in theory, policy, curriculum, teaching practice, assessment and resourcing. The thinking that has been developed in preparation of the documents discussed in Table 5, especially in the New Basics literature, provides a strong basis for such alignment that is not apparent in all Australian states. Teachers will be unable to embrace the principles of lifelong learning if they or their school communities lack the dispositions, structural supports, and political valuing of lifelong learning.⁹ A structural implication of the earlier discussion about the situatedness of learning is that the development of a suitable culture of learning is not the sole province of schools, but is a shared responsibility of “all the social partners –government, employers, trade unions and individuals.”^(183 p. 193) Provision of such support is more likely to encourage the development of high quality teachers as valued by Day¹⁸³ because they are adaptable and prepared to change to contribute to the endeavour of lifelong learning for the 21st Century.

4.14 Conclusion: Part 1

The attributes that are the subject of discussion in this paper are of major importance for education. In the contemporary research literature on student learning and development there is argument and evidence that provides a strong basis for the identification of these attributes and for the allocation of focussed attention to them by developers of policy, teachers and students.

On the basis of the review we have undertaken our advice is that QSA give consideration to some refinement of the details of attributes identified in recent QSA documents and then focus attention on how the attributes can be represented effectively for teachers and students.

Refinement of the representation of the attributes should recognise the influence of learning situations and the changes in the attributes across the school years. The influence of the affective/ motivational facet of learning needs to be given more detailed attention to more properly reflect its influence in the integrated system of learning.

It is hard to understand why the teaching about the attributes and how to use them is a matter of doubt. There is evidence that teaching about specific attributes and about how to use them makes a difference to student performance. This argument includes teaching about dispositions. We also accept that further research needs to be carried out to investigate the relative impacts of different approaches to the teaching of the attributes.

The representation of the attributes in QSA documents is a matter of concern. Part of this concern is associated with the labelling of the attributes, in particular with whether

the lifelong and employability qualifiers would be best removed, at least for teachers in the earlier years of schooling. The ways in which teachers view the attributes is seen to be a critical area for future investigation.

We suggest that the involvement of teachers in development of exemplars that describe and illustrate uses of the attributes will help to develop a richer context for the attributes than is currently provided in QSA documents. Part 2 of the current project will provide material that will be useful when exemplar development is undertaken. At the same time there are challenges for the QSA to address in considering whether and how the attributes will be assessed, or perhaps which attributes will be assessed in which manner

The range and depth of documents that are already available in QSA and Education Queensland sources is impressive. These provide a very useful resource for further developments related to the attributes and consideration could be given to how these resources can be packaged for use by teachers.

5 Part 2: Teachers' perspectives on the Attributes of the Lifelong Learner

Introduction: Part 2

In Part 2 of this report we present teachers' perspectives about the teaching and learning of the Attributes of a Lifelong Learner as currently prescribed in QSA syllabus documents.

5.1.1 The Research design

We set out to gather teachers' perspectives about the classroom implementation of the valued attributes of the lifelong learner as currently prescribed in the QSA Preparatory to Year 10 syllabus documents. We designed and conducted workshops, focus discussion/interview questions and had participants complete a teacher efficacy questionnaire.

The workshops, interviews and questionnaire were focused on ten research questions that formed part of the project brief, namely

- How well-developed is teachers' knowledge about the attributes?
- Which of the attributes are well understood, or not well understood, by teachers?
- Do teachers consider that any essential attributes are not included in the attributes?
- Do teachers' view the attributes of the lifelong learner framework as useful for guiding teaching practice and facilitating habits of lifelong learning?
- What explicit and implicit teaching strategies do teachers employ to enhance the attributes?
- What strategies do teachers use for assessing and recording students' achievement of the attributes?
- What are the major difficulties associated with incorporation of the attributes into teaching and assessment?
- From the teachers' perspectives which attributes are, and are not readily understood by students?
- Do teachers consider that teaching and learning of the attributes is successful in their classroom and school?
- What further support, if any, do teachers need to facilitate the implementation of the attributes?

5.1.2 Approval Processes and Ethics

Ethics approval for this project was granted by the Flinders University Social and Behavioural Research Ethics committee and by school principals at each school site.

The QSA provided contact details of schools who might be interested in joining the project. We contacted those schools' principals by telephone, email and post to seek their interest and commitment to releasing teachers to attend workshops and/or interviews. A sample letter of introduction is included at Appendix A.

Funds were provided for the provision of relief teachers to cover the absence of teachers participating in workshops or interviews.

Teachers attending workshops and interviews were individually asked for their consent to participate. A sample copy of the consent form is included at Appendix B.

Participating teachers were assured of confidentiality and anonymity. No teacher or site is identified in this report.

5.2 Teacher workshops, interviews and questionnaires

We convened two half-day workshops for 12 teachers from Queensland schools to discuss research questions three to twelve. Teachers were recruited following an initial approach from QSA seeking teachers who were knowledgeable and/or enthusiastic about the inclusion of the Attributes of the Lifelong Learner in their school curriculum. The teachers were drawn from primary and secondary schools from State, Catholic and Lutheran systems.

In addition, we conducted two site visits, the first to a large inner suburban State primary school, and the second to a large Preparatory to Year 12 suburban Lutheran School in the outer-metropolitan area of Queensland. At the site visits, the same issues that were discussed at the workshops were put to representative staff.

The teachers at the workshops and on site were also asked to complete a questionnaire, and to administer the questionnaire to a colleague.

Thus, in total, 23 teachers' perspectives are represented in this report (some of the teachers also held administrative positions).

A summary of the characteristics of the teachers who attended the workshops, were interviewed on-site, and/or completed questionnaires is included in Table 6. A summary of the characteristics of schools is presented in Table 7.

Table 6: Participants' Background Information

ID	years teaching experience	current position	subjects taught	year levels taught
1	10	Assist.to Princ.R.E.		5
2	8	teacher		2, 3, 4, 5
3	2	teacher	Eng, SOSE, RE	7, 8, 9, 10, 11
4	2	teacher	Eng, SOSE	9, 10, 11, 12
5	6	teacher	Eng, SOSE	8, 9, 10, 11
6	18	HoD	maths/science	9,10,11
7	1	teacher	maths, science, biol, multi-strand	8, 9, 10
8	9	teacher	science/math	9, 11, 12
9	14	teacher	Health & PE	8, 9, 10, 11, 12
10	0	pre-service teacher	biol/accounting	secondary
11	8	teacher	maths/science/biol	8, 9
12	22	teacher	art, english, christian studies	7, 8, 10
13	26	Head of middle school	humanities	9
14	15	HoD	Eng, SOSE	8, 11, 12
15	14	HoD teaching &	modern history/sose. teaching & learning	8, 9, 10, 11, 12
16	no personal details provided			
17	no personal details provided			
18	12	P-3 coordinator	early childhood	P, 1, 2, 3
19	2	teacher	Yr 6	6
20	29	teacher	Yr 6	6
21	7	teacher	Yr 6	6
22	4	teacher	early childhood	P, 1, 2
23	6	teacher	early childhood	3

Table 7: Participants' schools

Outer metropolitan Preparatory to Year 12 Lutheran college
Metropolitan Preparatory to Year 10 Lutheran College
Country Catholic Primary School
Metropolitan Catholic Primary School
3 Metropolitan State Secondary Schools
Metropolitan State Primary School

5.2.1 Workshop Design

The two half-day workshops were constructed to elicit teacher discussion around the research questions. Appendix C contains the workshop designs for day 1 and day 2, respectively. The workshop outlines illustrate that teachers were asked to translate the attributes into practical representations, review QSA documents, and translate the attributes into outcomes. A similar, but scaled down, process was adopted for the on-site interviews.

Teachers worked in whole group and small group formats. Discussions were recorded and subsequently transcribed.

The teachers attending the workshops and the onsite interviews were enthusiastic and highly committed to contributing their considered perspectives to this project.

For homework, teachers were asked to complete, and administer to a colleague, a questionnaire related to teachers' efficacy for teaching the attributes. A copy of the questionnaire is attached at Appendix D. Examples of questions are included in Table 8.

Table 8: Sample questions from teacher questionnaire

1. I can effectively use available resources for teaching my class about the 7-attributes
2. I can motivate students who show a low interest in learning about the 7-attributes
3. I can effectively deal with students' questions about the 7-attributes.

Teachers were also asked to provide samples of artefacts from their schools that illustrated the implementation of the attributes.

5.2.2 Limitations

The very small sample of teachers in this study, drawn from an initial call for teachers expressing an interest in the Attributes of the Lifelong Learner, was intended to gather information from teachers knowledgeable about and enthusiastic about the attributes. One objective of the workshops was to illustrate what could be done with the attributes if they were given high priority in school curricula. A second objective was to seek the reactions of teachers who were interested in the attributes but less involved in their explicit use. The composition of the sample of teachers who made up the workshops enabled us to achieve both objectives. Given the small size of our sample, QSA might wish to survey a broader range of teachers to gain a more representative sample of teachers' perspectives.

5.2.3 Format for presentation of results

The following discussion of our findings is organised around each of the research questions, with each research question providing the focus for an analysis of teachers' responses.

5.3 Teachers' Knowledge and Understanding about the attributes

In this section we discuss issues that arose during our investigation that relate to teachers' knowledge and understanding about the attributes, with specific focus on teachers' responses to Research Questions 3 and 4.

5.3.1 Research Question 3: How well-developed is teachers' knowledge about the attributes?

Our analysis of participants' responses to workshop questions, interviews and questionnaires indicates that there is a wide range of knowledge about the attributes, from very little to a lot. A representative selection of the teachers' comments follows.

"I believe the Attributes of a Lifelong Learner sounds like a completely ridiculous term"

"While I do have an awareness of this initiative it is not something I explicitly teach my students about. I have no professional development in this area and while many of the attributes are 'common sense' I do not use them specifically in my planning."

"In our school our staff (not just the teachers) view lifelong skills as being an important part of education and so as a school we have developed a workable framework that staff are in-serviced about and actively contribute to the ongoing changes that are necessary. I am sure this is not so in other schools. Really my view is that the schools need support to build their own framework and decide as a whole how they are going to teach the lifelong learning attributes."

Some schools, at secondary and primary level, have each developed a framework of attributes or qualities of lifelong learning that provide the fundamental starting point for the development of the whole school curriculum. In these schools, staff meetings and pupil free days are devoted to whole school planning around lifelong learning attributes. These programs have been in development and implementation for many years, with ongoing revision. The principles of lifelong learning underpin lesson design, assessment and reporting. The language of lifelong learning is explicitly used with students, in parent-teacher-student interviews, and in school documents such as newsletters and reports. In turn, students use the language of lifelong learning when describing their own and their peers achievements during classroom activities:

"I was a lifelong learner when I asked the teacher a question"

"I was a lifelong learner when I helped my friend to work out how to do it"

Such schools have developed resources to support the teaching of the lifelong learning attributes. They have developed materials that describe teaching strategies and outcome statements. Participants from these schools stressed that the implementation of a lifelong learning framework for whole school planning has not been a simple process, but has demanded time, dedicated commitment and self-reflection by all staff.

Feedback from other teachers suggests that, in their schools, little attention is paid to the attributes of lifelong learning, though change is possible.

“Sadly I believe that in my specific teaching areas most of the teachers don’t value the attributes framework. They are very much resistant to change and refuse to acknowledge that today’s students are very different to how it was even just a few years ago. They will quite often use the statement “it has worked for me for years why do I need to change it now.” Personally I have found that I look forward to planning change in my classes. I have only recently ‘discovered’ the attributes and have begun embracing the framework in my ‘room’. I fully support the fact that this shouldn’t be about attributes in maths or English but about attributes in life.”

For the ‘homework’ task of workshop 1, participants were invited to ask other teachers at their school about the attributes. Feedback in the subsequent workshop 2 included that one Head of Department, with major responsibilities for curriculum planning, indicated that he had *“never heard of them (the attributes).”*

Other teachers indicated that they dealt with the attributes implicitly, or that the attributes were simply common sense, but they did not explicitly use the attributes in their planning and teaching.

5.3.2 Research question 4: Which of the attributes are well understood, or not well understood, by teachers?

We asked workshop participants to rate, on a five point scale, their understandings about each of the attributes of a lifelong learner. Results are as follows.

Table 9: Participants' self ratings about their understandings about the attributes of a lifelong learner (scale 1 = low to 5 = high)

	a knowledgeable person with a deep understanding	a complex thinker	a responsive creator	an active investigator	an effective communicator	a participant in an interdependant world	a reflective & self directed learner
teacher A	3	4	4	3	4	3	3
teacher B	5	5	3	5	2	2	3
teacher C	3	4	2	4	3	4	3
teacher D	4	4	5	5	5	4	4
teacher E	4	4	4	4.5	4	3	4
teacher F	4	4	4	5	5	3	5
teacher G	5	4	5	4	5	4	5
teacher H	4	4	4	4	4	4	4
teacher I	3	4	3	4	4	3	3
teacher J	5	5	5	5	5	5	5
teacher K	5	5	5	5	5	5	5
teacher L	4	4	5	4	5	4	4
Total score	49	51	49	52.5	51	44	48
Mean Score	4.08	4.25	4.08	4.38	4.25	3.67	4

Participants' responses suggest a relatively high level of self-assessed understanding about each of the attributes, although '*a participant in an interdependent world*' achieves a lower, though still positive, rating. This relative confidence in teachers' understandings was confirmed in discussions. Teachers employed at schools that had adopted a lifelong learning framework for planning indicated that through extensive discussion during staff meetings they had developed ways of conceptualising the more difficult attributes. For example, it was proposed that *participant in an interdependent world* could be more readily understood by teachers and students by beginning at the classroom level, which could be conceived as a small scale representation of a community that requires sharing, cooperating and helping, and then moving to broader communities, such as the school community, the local community and then the broader society.

It should be noted that the ratings in Table 9 come from a select sample of participants who had shown an interest in attending our workshops. It follows from teachers' responses discussed under Research Question 3 that not all teachers across a system could be expected to rate their understandings of the attributes as highly.

In addition, we adapted Bandura's² Teacher Self-Efficacy Scale and Robert's and Henson's Self-Efficacy Teaching and Knowledge Instrument for Science Teaching³ to construct a 22 item Likert scale questionnaire to measure teachers' self-efficacy for teaching the Attributes of a Lifelong Learner. The sample size in the present project does not permit psychometric testing of this instrument constructed specifically for this project. However participants' responses can be interpreted at the descriptive level to provide some insight into teachers' efficacy for teaching the attributes. Table 10

contains an overview of 23 participants' responses (workshop participants, interviewees and their colleagues).

From Table 10 it can be noted that teacher efficacy is moderate to high, with means ranging from 4.20 to 5.14 on the seven point scale. The highest mean score was for the item *I can see how the attributes fits into the broader school curriculum*. The lowest mean score was for the item *I can overcome negative peer group and community attitudes that might affect students' learning about the attributes*. In addition, in Table 10 we have reported the response frequencies for each questionnaire item as we consider that appreciating the range of participants' responses to each item is informative in addition to the overall picture gleaned by condensing the data into mean scores.

The picture from the broader group of questionnaire respondents is similar to workshop participants' self-ratings, indicating a relatively high level of teacher confidence for teaching the attributes. Note however that all the questionnaire items received at least one response at the *strongly disagree and disagree* end of the Likert scale, indicating that there are some teachers who do not feel efficacious about individual items: they don't know much about the attributes, and they don't think they can teach them.

We also asked participants to work in groups to explicate their understandings about each of the attributes of a lifelong learner. Groups' responses were generally well developed, as evidenced by the following example from a participant's workbook

"A knowledgeable person with a deep understanding

- *Questions information*
- *Reads text with understanding*
- *Reads widely*
- *Thinks in different ways (analytically, numerically)*
- *Projects thoughts and opinions with reasoning and evidence*
- *Empathises with cultural differences"*

Table 10: Teacher efficacy for teaching the Attributes of a Lifelong Learner questionnaire results.

	strongly disagree	disagree	neutral	agree	strongly agree	
I can effectively use available resources for teaching my class about the attributes	1.....2.....3.....4.....5.....6.....7					
Frequency	0	1	1	6	12	3
	0	1	1	6	12	3
I can motivate students who show a low interest in learning about the attributes	1.....2.....3.....4.....5.....6.....7					
Frequency	0	2	1	4	13	3
	0	2	1	4	13	3
I can effectively deal with students' questions about the attributes.	1.....2.....3.....4.....5.....6.....7					
Frequency	2	0	2	8	5	6
	2	0	2	8	5	6
I can overcome negative peer group and community attitudes that might affect students' learning about the attributes	1.....2.....3.....4.....5.....6.....7					
Frequency	0	2	4	7	8	2
	0	2	4	7	8	2
I can teach about the attributes as well as I can teach my other subjects.	1.....2.....3.....4.....5.....6.....7					
Frequency	0	2	4	5	6	5
	0	2	4	5	6	5
I can continually invent better ways to teach about the attributes.	1.....2.....3.....4.....5.....6.....7					
Frequency	0	0	1	5	7	8
	0	0	1	5	7	8
I can understand concepts about lifelong learning well enough to teach about the attributes effectively.	1.....2.....3.....4.....5.....6.....7					
Frequency	0	0	4	5	9	6
	0	0	4	5	9	6
I can help students to develop a good understanding about the attributes.	1.....2.....3.....4.....5.....6.....7					
Frequency	0	0	2	5	12	4
	0	0	2	5	12	4

I can promote learning about the attributes whether or not there is support from the student's home. Frequency	1.....2.....3.....4.....5.....6..... 7 1 0 1 6 11 3 1	Mean 4.70
I can establish a supportive learning environment for my class when they are learning about the attributes. Frequency	1.....2.....3.....4.....5.....6..... 7 0 0 2 2 6 12 1	Mean 5.35
I can help students tap into their prior knowledge to facilitate their learning about the attributes. Frequency	1.....2.....3.....4.....5.....6..... 7 0 1 2 3 9 7 1	Mean 4.96
I can help students to examine their beliefs and attitudes about the attributes Frequency	1.....2.....3.....4.....5.....6..... 7 0 0 2 4 12 4 1	Mean 4.91
I can implement a variety of different teaching activities when teaching about the attributes Frequency	1.....2.....3.....4.....5.....6..... 7 1 0 1 3 7 8 2	Mean 5.14
I can effectively evaluate students' knowledge about the attributes Frequency	1.....2.....3.....4.....5.....6..... 7 1 0 3 7 7 5 0	Mean 4.47
I can effectively evaluate students' attitudes about the attributes Frequency	1.....2.....3.....4.....5.....6..... 7 1 0 2 7 9 3 1	Mean 4.57
I can help students to apply their knowledge about the attributes to their every day life. Frequency	1.....2.....3.....4.....5.....6..... 7 1 0 2 4 9 5 2	Mean 4.89
I can effectively deal with issues about the attributes that students might raise Frequency	1.....2.....3.....4.....5.....6..... 7 1 1 4 3 10 4 0	Mean 4.39

I can confidently teach about the attributes Frequency	1.....2.....3.....4.....5.....6..... 7 1 0 2 7 5 8 0	Mean 4.70
I can see how the attributes fit into the broader school curriculum Frequency	1.....2.....3.....4.....5.....6..... 7 1 0 0 3 4 9 6	Mean 5.61
I can accommodate the different learning needs of individual students in teaching about the attributes Frequency	1.....2.....3.....4.....5.....6..... 7 1 1 2 4 7 8 0	Mean 4.70
I can work with individual students who have specific concerns when learning about the attributes Frequency	1.....2.....3.....4.....5.....6..... 7 1 0 0 5 8 9 0	Mean 5
I can help my students relate their learning about the attributes to other areas of the curriculum Frequency	1.....2.....3.....4.....5.....6..... 7 2 0 0 4 8 8 1	Mean 4.91

5.4 Teachers' perceptions of the nature of the attributes

In this section we provide an analysis of teachers' responses to Research Questions 5, 6 and 11, which provide some insight into teachers' perceptions of the nature of the attributes with respect to content and utility for guiding practice.

5.4.1 Research question 5: Do teachers consider that any essential attributes are not included in the QSA list of attributes?

This question can be considered at different levels. To begin, it pre-supposes the need for a list of essential attributes to exist. In Part 1 we addressed this question from the perspective of international and national research and literature, and concluded that there is a sound theoretical basis for the QSA attributes.

Participants' responses to this question at a general level recognised that different systems of education had adopted lists of attributes, or qualities, or learnings, which were fundamentally similar in intent, although the actual wording of individual attributes might differ. For example, one school had adopted a list of lifelong learning *qualities* and another school had a statement of *values*. Items such as communication, investigation and self-directed learning appear in those lists, though under different labels.

Participants also noted that different words for apparently similar attributes were used within QSA documents, such as between syllabus documents for different subjects, and within individual syllabus documents.

Overall it was felt that generally the list of attributes captured much of what was considered to be useful to have in such a list. At a more specific level, some participants pointed out that certain attributes that were important, either for their own school, or for education in general, were missing. In particular, the missing attributes suggested were

- A futures perspective
- Cross-cultural perspectives
- Spirituality
- A promotion of physical and mental well-being
- Redefining contemporary cultural identity post-terrorism
- Addressing diversity within and across schools

An issue for QSA to consider is whether some attributes are more, or less, valued than other attributes. Each attribute will need the flexibility to be interpreted within a school context, with different schools perhaps having different priorities. This is perhaps best exemplified by the perceived need by schools with a religious focus to include recognition of spirituality as an essential attribute.

5.4.2 Research question 6: Do teachers' view the attributes framework as useful for guiding teaching practice and facilitating habits of lifelong learning?

Teachers from those schools that had developed a list of lifelong learning attributes into a framework for curriculum planning did so from a belief that the particular attributes or qualities they had chosen comprised a set of organising principles for the curriculum. That some schools have made lifelong learning attributes (or qualities) the core of their curriculum and/or mission statement attests to the perceived value of the attributes for guiding those schools' practices.

From participants' responses there is a suggestion that for those schools that have not explicitly adopted lifelong learning attributes in their planning, there may nevertheless be an implicit recognition of the attributes' worth. This was demonstrated when participants were given the opportunity for reflection in our workshops, where they generated direct links between their existing practices and the attributes.

However, within our workshops and interviews, there was little or no evidence that the statements of attributes of a lifelong learner contained at the beginning of each QSA Preparatory to Year-10 syllabus document were explicitly guiding teaching practice.

Participants indicated that the fact that the attributes are included as a preamble in each of the QSA Preparatory to Year 10 Key learning Area syllabus documents, and don't appear at all in the senior syllabus documents, sends fragmented and confusing messages to teachers.

"It looks as though [from the syllabus documents] the attributes are separate for maths and English. In fact the attributes are the same for all of them, but that is lost in the presentation of the syllabus. The QSA Web page needs to keep the attributes linked to the KLAs. We can't just do an attribute in English and think it is only for English. Must be across KLAs. The separation of documents loses the connection of the KLAs."

5.4.2.1 Diversity

The independence and diversity between schools represented at our workshops with respect to the adoption of the attributes was striking. Each school, even within the same school system, sets its own mission statement and priorities, although there appeared to be more concurrence between schools within the Catholic, and within the Lutheran systems. What does this mean for an attempt to provide an overarching attributes framework? Schools appear to be able to choose whether or not to include the attributes explicitly in their curriculum planning. If this is the case, what is the purpose of including the attributes in QSA syllabus documents?

One suggestion was that QSA role is to build a structure which

"Can be structurally tight but culturally loose"

If the purpose of the inclusion of the attributes in syllabus documents is ambiguous, this may be related to workshop participants' concern that the attributes are stated in syllabus documents, but are not supported with teaching and learning resources. As noted in the response to Research Question 12, participants are looking for much stronger provision of teaching and learning resources from either an education system or from QSA. It is of considerable concern that where resources have been developed, these tend to be corralled inside a single school fence. There needs to be far greater conservation and distribution of valuable teaching and learning resources that have, in many cases, taken countless hours of teacher time in preparation and trial. There is a role for some body, perhaps QSA, to provide a central site for attributes-related resources.

Although there may be different perspectives about whose responsibility it is to provide and develop resources for teaching and learning the attributes, workshop participants' perceived that at present the burden of developing resources lies too heavily with teachers.

Some schools who had adopted a lifelong learning framework had taken the attributes, or qualities, or principles, from QSA documents. However, other schools appeared to have been informed by other sources, such as Delors' ⁴ four pillars of lifelong learning or the learning to learn movement ⁵.

5.4.3 Research Question 11: Do teachers consider that teaching and learning of the attributes is successful in their classroom and school?

The response to this research question first requires consideration of the degree to which the attributes are explicitly included in school curriculum planning.

Where schools have adopted lifelong learning frameworks to underpin their curriculum, workshop participants indicated that the explicit teaching and learning of the attributes of lifelong learning is very successful. These teachers made persuasive arguments about the value of an underpinning lifelong learning framework, and influenced workshop participants from other schools to view the attributes very favourably. Note that such success is possibly due to the establishment of the supporting frameworks discussed throughout this report, such as allocating time for staff discussion and resource development. The schools in question had developed a wide range of resources for use by teachers.

For schools where the attributes are not explicitly included in curriculum planning, feedback from workshop participants highlighted the influence of individual teacher practices on the success, or otherwise, of teaching and learning the attributes of a lifelong learner.

“The attributes framework is what teaching is all about!!! The emphasis on teaching has become subject specific and unless leadership is provided within a school context for emphasis to be placed on attributes, with the subject as a vehicle for these, then meaning is lost. The emphasis for attributes needs to be addressed at all levels within the school. It is a concern that QCE, QCS, Modification/ Verification place an emphasis on outcomes, with pressure placed on schools to perform, with results published. In this environment the individual teacher determines how well these attributes are gained. A great teacher will always deliver these strengths, regardless of curriculum documents.”

5.5 Implementing the attributes

In this section we report on teachers' responses that illustrate how they go about implementing the attributes, which includes our analysis of teachers' responses relevant to Research Questions 7, 8, 9, 10, and 12.

5.5.1 Research Question 7: What *explicit* and *implicit* teaching strategies do teachers employ to enhance the attributes?

The workshop discussions made clear that it is necessary to make a distinction between schools that have adopted a lifelong learning framework for guiding teaching and learning practices and schools that have not.

5.5.1.1 Explicit incorporation of the attributes

Schools that have adopted lifelong learning guidelines have spent considerable staff and student time designing and trialling strategies for teaching the attributes. They have also developed descriptors of student behaviours that represent each of the attributes. On the next page are samples of Year 4 students' explorations of descriptors for lifelong learners, self-directed and reflective learners, quality producers and leaders and collaborators. Such resources are and made available for whole staff use.

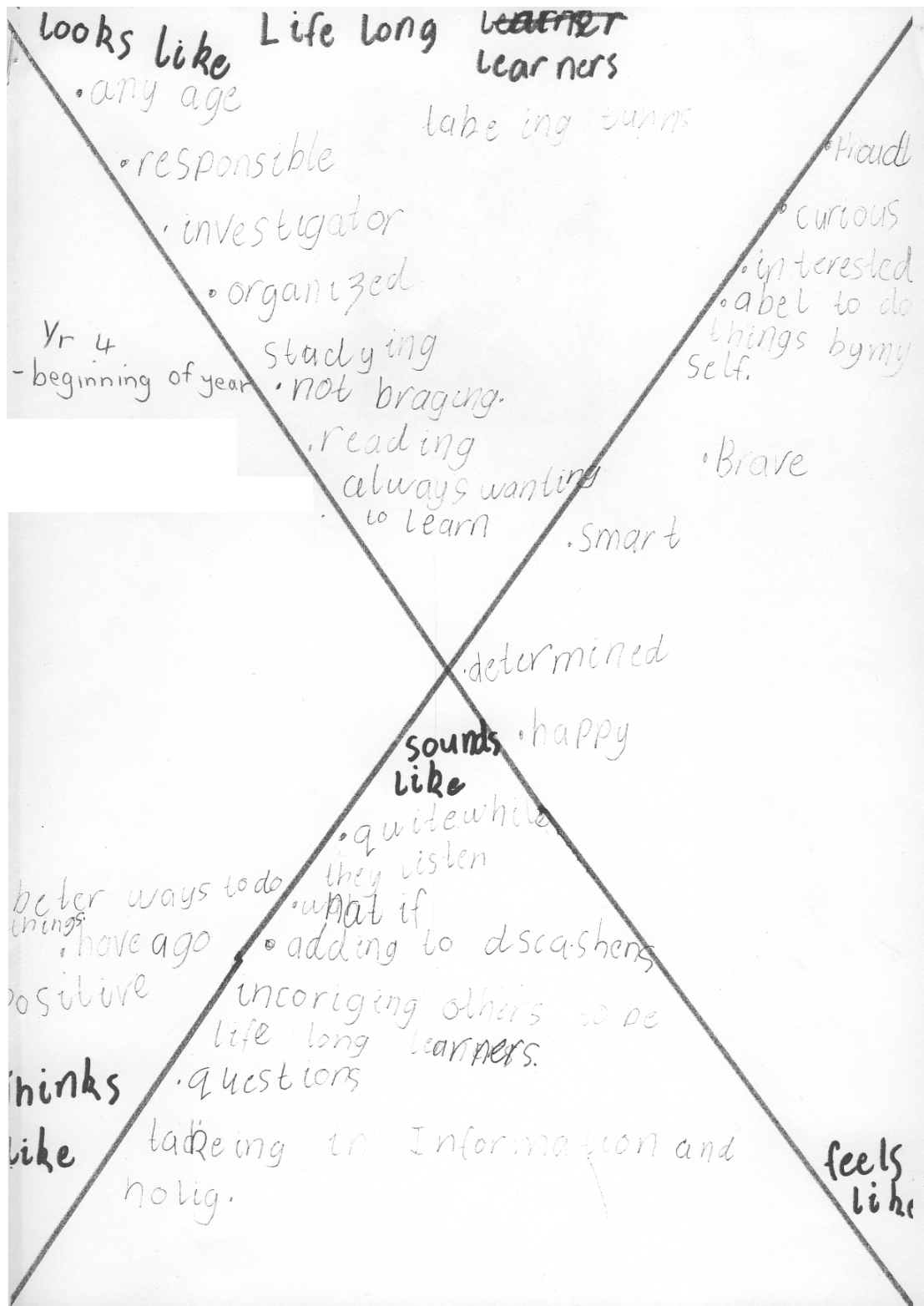
For example, one school described the following steps in the preparation of resources

1. *[First you need to] ask: What are the lifelong learning needs of my current group of students? For example "Persevere with tasks & organise behaviour."*
2. *Then you write criteria for the demonstration of that attribute.*
3. *Then compile a readily accessible folder containing the criteria. For example*
 - *Persevere with tasks*
 - *Follow a procedure*
 - *Plan a time frame*
 - *Use a time frame*
 - *Collect equipment*
 - *Stay focussed*
 - *Seek assistance*
 - *Self – talk, etc*
4. *Prepare an observation sheet for each child containing the criteria for every attribute.*
5. *[Check that] you saw that criterion – tick the observation sheet.*
6. *Prepare a portfolio for each child.*

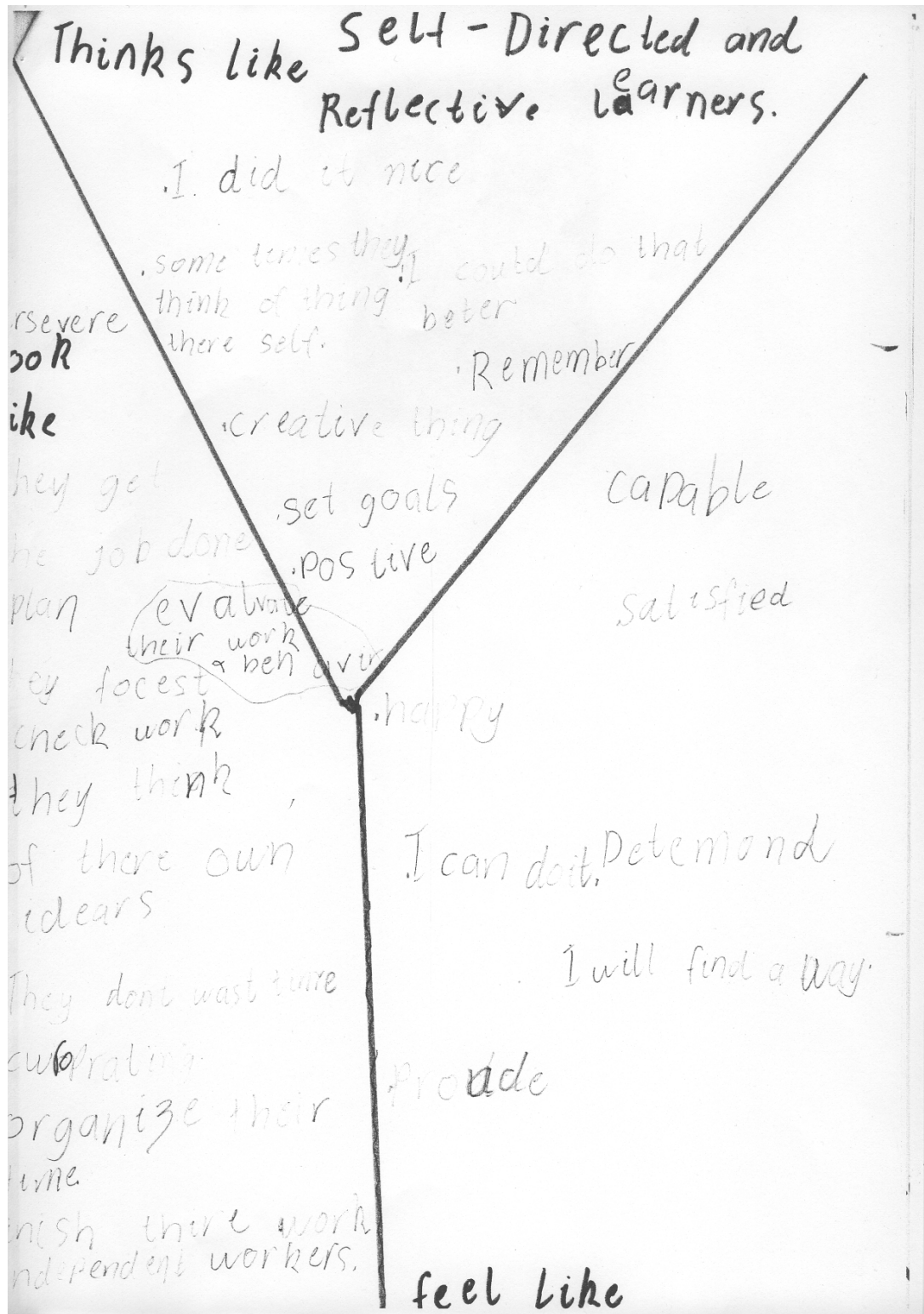
7. *[For the report the] teacher makes an overall decision about student's progress."*

A response to the above description from one participant from another school was that

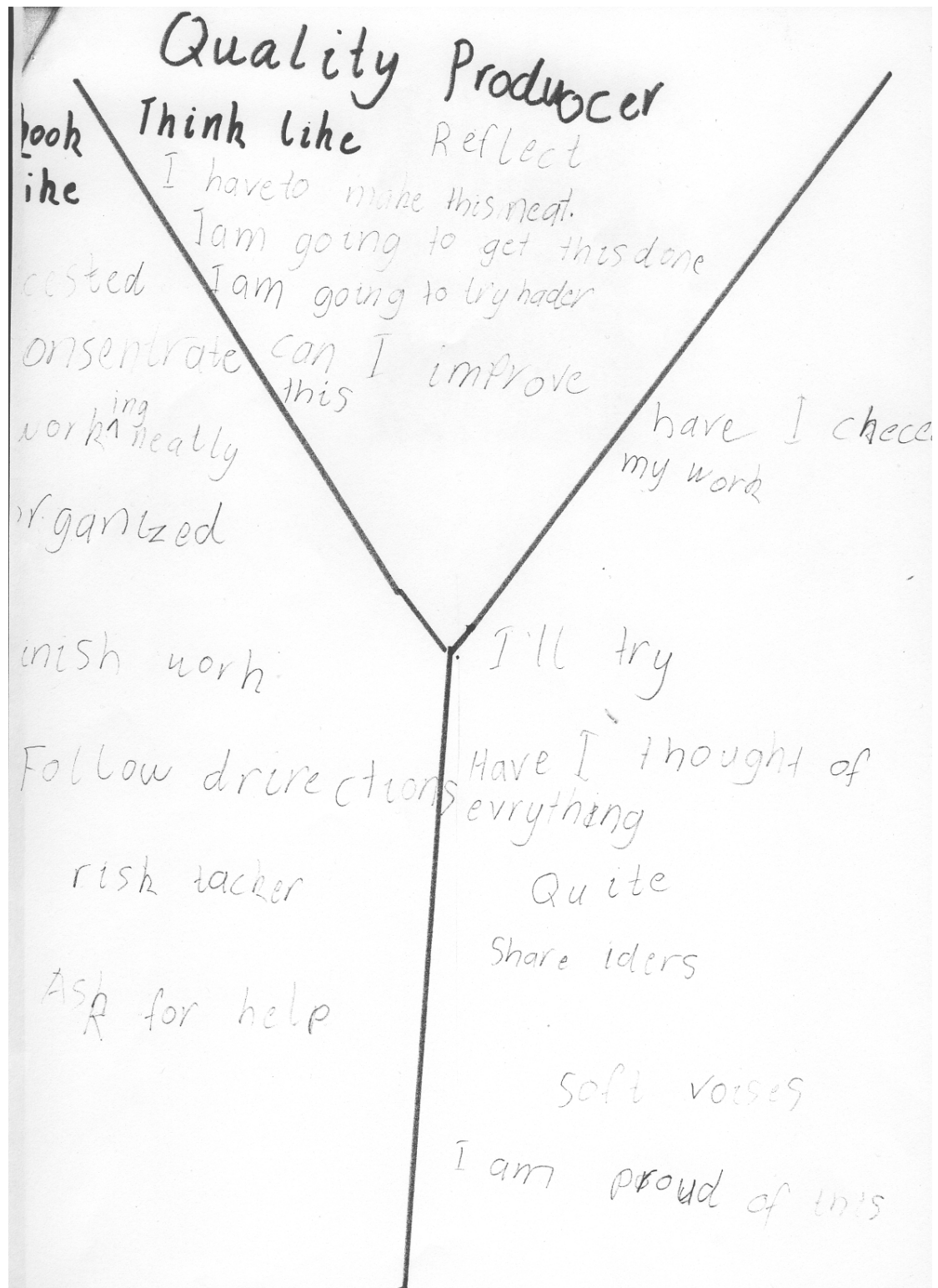
"Teachers at our school would not do that – it's too much work"



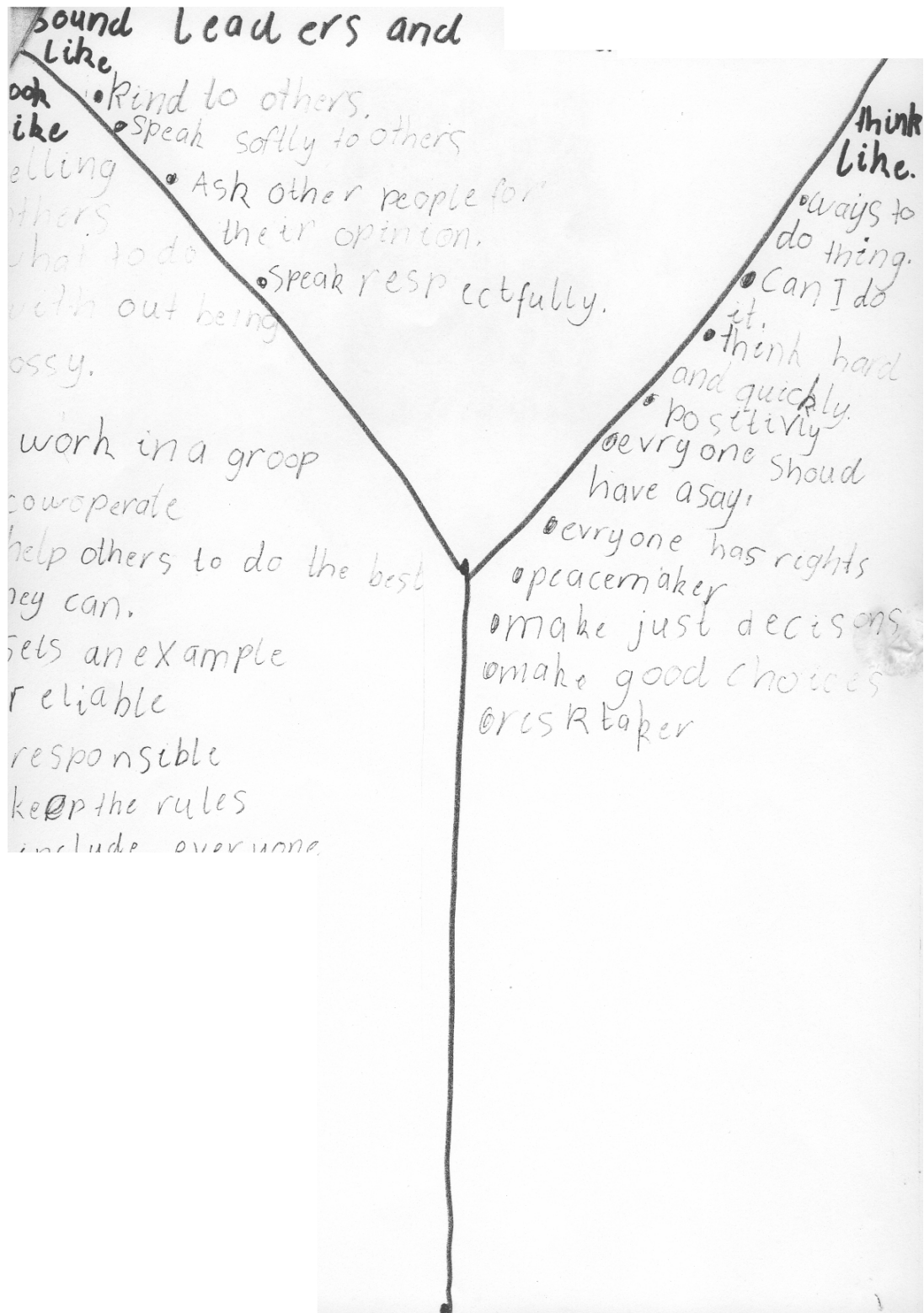
5.5.1.2 Sample of Year 4 students' explorations of descriptors for Attributes of a Lifelong Learner



5.5.1.3 Sample of Year 4 students' explorations of descriptors for Attributes of a Lifelong Learner: Self-directed and reflective learners



5.5.1.4 Sample of Year 4 students' explorations of descriptors for Attributes of a Lifelong Learner: Quality Producer



Sample of Year 4 students' explorations of descriptors for Attributes of a Lifelong Learner: Leaders and Collaborators

Schools that have introduced lifelong learning across the curriculum have undertaken an iterative process of development and implementation. Steps in such a process have included:

1. Early introduction – extensive discussion and overcoming difficulties including fear of change;
2. Total commitment by management, teaching and general staff to the principals of lifelong learning;
3. Developing teaching materials (folders of teaching strategies, lists of descriptors, posters for display);
4. Educating students, new staff, parents, and the general community about the principles of lifelong learning;
5. Trials and discussion and ongoing development;
6. Incorporation in all aspects of classroom and school life (staff meetings, school assemblies, reporting frameworks, teacher, student and parent language);
7. Need for review and revision.

5.5.1.5 Implicit incorporation of the attributes

Where lifelong learning does not underpin the curriculum, the onus for developing strategies for teaching lifelong learning skills appears to rely upon individual teachers. Here, teaching for lifelong learning may be considered implicit in the work of good teaching:

“A good practitioner will (always) implicitly and explicitly include the attributes in their teaching from year 8 – 12. I feel that if the QSA wished to assess and report on these then we would under current educational structure be merely providing lip service to the attributes by devising criteria that represent how a student would present and include this on the report as an additional point. To merely do this has missed by a country mile (!) the idea of the attributes in the teaching/learning process. For the attributes to be tangible they need to be the centre of the teaching learning process – cross faculty work in high schools enables a wider framework to develop the attributes however, with benchmarks, verification, QCE, QCS and completion//achievement rates being published which in turn will have added effect on enrolments in some EQ schools – content/assessment is placed in high priority.”

A similar perspective is that the attributes are embedded in the Key Learning Areas:

“The attributes are not separate to the maths. That point has been lost. Some people think that there are different attributes that only go with maths – that only go with English. But the attributes are not different, they don’t change. These are the things that we teach while we’re teaching stuff. And that’s been

lost...attributes are what we teach kids. Sometimes we do it intuitively. This [workshop] is making us sit down & say, 'I actually need to teach the kids how to effectively communicate, and I'm going to do that in my science.' In Biology I'm doing this. They are working in a group, effective communication skills. If I do that in front of all curriculum areas – it's not something specific. It is something that fits in every subject. I think that's been lost...Those attributes are for everything you do in life. These kids can analyse in English, science, maths-anything they come across in life. And they can do social interaction. That has been totally lost in the bringing out of these documents. Its got this little bit at the beginning of the document – people think it is only for that. And they've [QSA] done a bad job there cos they've lost what it's about"

Comparisons can be made between this debate and the teaching of study skills debate. Is it more effective to isolate study skills (or the attributes) and focus on their teaching in dedicated classes? Or is it better to embed the teaching of study skills (or the attributes) in their authentic contexts of use? An overview of different perspectives on this debate in the study skills arena can be found in Chanock⁶, Murry⁷, Kiewra⁸, Weinstein⁹, and Part One of this report.

An additional perspective is that skills of lifelong learning are developed in activities that are now core components of the school curriculum, but which lie outside traditional subject areas. For example, work experience and school camp were suggested as “hot spots” in the curriculum that could provide key opportunities for students to develop lifelong learning attributes such as communication skills, self-regulation and collaboration. An extension of this latter argument is that some groups consider that the teaching of the attributes should be relegated to non-core areas, leaving the teachers of KLAs free to focus on their subject matter.

Suggested areas for inclusion of the attributes included Chess, Robotics, Tournament of Minds, Choir, Bands, Percussion, Cheerleading, Sport, Music and VET in schools. Developing the attributes in these areas was seen by some workshop participants to have the additional advantage of not being subject to the same kinds of assessment constraints as the KLAs, from QSA's, parents' and the community's expectations. Alternative assessments such as self-assessment, peer-assessment and public accountability through performance were seen (by some teachers) as more appropriate in these alternative areas.

Our analyses of workshop participants' comments have led us to develop a two-by-two representation of the possible locations of the attributes in the curriculum, as displayed in Table 11, overpage.

Table 11: Conceptualization of the location of the attributes in the curriculum

	Implicit	Explicit
Key Learning Areas	The attributes are embedded in the subject matter content (e.g. Communication skills are automatically embedded in English; problem solving is automatically embedded in maths)	The attributes are the starting point, and the KLA is used to develop each attributes. (e.g. An English activity could be selected to develop communication skills; A maths activity could be selected to enhance problem solving capabilities)
Extension Learning Areas	The attributes are embedded in the extension activity (e.g. attending school camp will automatically develop students' self-direction; doing work experience will automatically develop students' ability to participate in an interdependent world)	The attributes are the starting point, and the extension activity is selected to develop certain capabilities (e.g. a school play is selected to develop students' cultural awareness and recognition of the need to participate in an interdependent world.)

Teachers and school communities may develop curriculum based upon a stance identified in one of the cells in Table 11. This stance then would dictate approaches to curriculum planning, to the language used by teachers and students, to what is given priority in time allocations, to what is assessed and reported, and to whether the attributes are explicitly valued or implicitly assumed.

Links can be drawn between Table 11 and the suggestion by Reid¹⁰ that some central curriculum focus on core capabilities, (which may include the attributes), might be appropriate, with teachers then adopting responsibility for explicitly developing those core capabilities through the teaching and learning activities that they design and deliver through the various Key Learning (and other learning) areas. In notable element in such a procedure is the *explicit* attention being given to the attributes.

5.5.2 Research Question 8: What strategies do teachers use for assessing and recording students' achievement of the attributes?

Intimately connected with our discussion so far is the degree to which attributes for lifelong learning are assessed and reported:

“My first idea about the need to report the attributes has come from this Workshop”

“Our parents don't want to know. They only want A to E”

In participants' schools with a lifelong learning focus, teachers make decisions about students' attainment of the attributes, and report these decisions on either a developmental (emerging, developing, established) or frequency (never, sometimes, often) scale. Note that this reporting system is different to that used for Key Learning Areas, which were either rated against a criterion or reported as an outcome statement.

A sample primary school reporting system is included at the end of this section. It can be seen that in addition to reporting on the key learning areas, teachers in this school report on each child's progress in developing social attitudes such as cooperation and work habits such as working independently and cooperatively and displaying initiative. These indicators can be recognized as being part of the attributes. Some schools demonstrate students' attainment of the attributes through regular student presentations at assemblies, or at parent-student-teacher meetings, and students' self and peer assessments. These schools also demonstrate ongoing commitment to the attributes in other documents and visual displays, such as school posters and brochures that detail the attributes. Where the attributes are recognized in the strategic plan or mission statement of the school, such a commitment and understanding is reflected in the assessment and reporting strategies developed by the teachers.

In schools that have not adopted a lifelong learning framework, assessing the lifelong learning skills was seen to be problematic, both with respect to designing an appropriate assessment and reporting framework, and to the extra time and paperwork burden that this would add to an already large set of reporting requirements. Suggestions included placing a report on the lifelong learning attributes in each student's school reference, in a work experience report, or in a portfolio. Strong argument, based on the concern about creating yet another assessment and reporting burden, was made for restricting the report to a one page format in a language that parents can understand.

“If attributes are to be assessed and reported on in Years 11 & 12 first there needs to be a focus on the importance of lifelong learning. Next there needs to be a shared understanding of what each attributes means which is not subject specific. After that criteria can be set for each of these understandings. Then within each school/faculty it can be decided how to collect evidence that the attributes are being demonstrated. I think this would be a huge shift in thinking for many Year 11 and 12 teachers. It would need to be supported in many ways. Most importantly it would need to be developed over time so that understandings are strengthened and a shared vision is developed.

It is important that the students are part of the process so they too can develop understandings and a value for the attributes. Parent education is also very important and needs to focus not on what parents know and knew but on the future.”

Another suggestion was that the attributes could be divided up and taught on, say, a two year rotational basis, with a whole school focus on one attribute at a time. This suggestion comes from the perspective that the attributes are something to be added on – to be fitted into the already overcrowded curriculum.

The general impression that we gained from the workshops was that although teachers do fundamentally (perhaps implicitly) believe in qualities such as the attributes, the perceived summative assessment burden in the higher year levels is one major factor that gets in the way of a willingness to commit to explicitly including the attributes in the curriculum. (The other major factors are resource development and dedicated professional development time – discussed herein.)

Don't give me another document. If you do, that's it, I resign. Already we have

ETRF, ICTs, QCEs, QCS, ABCDE reporting, Moderation, Verification - ATTRIBUTES!!!

Workshop participants employed at the senior levels of secondary schools indicated strongly that the timelines for year 12 are already very restrictive.

“In Term 4 I'm caught in a revolving deadline door.”

Other participants, including some at secondary level, had thought deeply about the role of assessment in relation to the attributes:

“What do we want to develop within each student by the time they leave our education system?”

- *As an effective communicator*
- *Understanding of audience*
- *Confident and structured thought process*
- *Confident delivery in a variety of contexts*
- *Clear, emotive dialogue*
- *Able to structure of an argument*
- *Able to listen to both sides of the argument*
- *Able to generating information for a wide audience*
- *Structure written & oral communication*

- *Effective persuasive strategies*
- *Compose and comprehend a variety of written, visual, spoken texts with a particular purposes*
- *Explore and express ideas individually and as a group situation*
- *Respond positively & effectively both verbally & non verbally for a variety of purposes”*

“These attributes could be used in the Yr 11/12 arena as exit statements – the student could write a statement based on the KLAs that they have undertaken and then the school could also collate all teacher input for the exit statement”

“A 3 way interview could come into the reporting process”

“I don’t think the attributes can be assessed - more they are observed as demonstrated. They should be seen within the planning, teaching and assessing process – comments are the best way to reflect on students’ progress.”

At the primary school level, assessing and reporting the attributes was seen as less problematic. Some participating primary teachers have developed formative and summative assessment and reporting frameworks based upon observed student behaviours, student work portfolios, displays of student artefacts, students performances and so on. Some of these activities are explicitly assessed and included in reports. Other activities (such as presentation at a school assembly) appear to include an implicit assessment component that exists through the very execution of the action. The teachers at our workshops referred to this as outcomes based assessment.

At the secondary school level, assessments increasingly become explicit against defined criteria because of the need for reporting to external authorities. Thus, assessing students’ attainment of the attributes requires the definition of criteria for the attributes. We have addressed this issue at length in Part 1 of this report and see that the conclusions we reached there are still sound and applicable at all levels of schooling. However, where schools have not yet accorded the attributes prominence, from the teachers’ perspective, it needs to be recognised that any additional reporting burden emanating from explicit inclusion of the attributes is likely to be unwelcome.

Sample Pupil Progress Report Years 1-7

[illegible][illegible]

HEALTH PHYSICAL EDUCATION AND PERSONAL DEVELOPMENT											
Knowledge and Understanding											
Skills and Processes											
Water Safety skills											
Ball Skills											
Athletics Skills											
Dance Movement Activities											
Comment											
Social Attitudes	c	0	1			C	0				
Cooperates with peers											
Is courteous and considerate											
Respects the rights and property of others											
Responsible and acceptable behaviour											

Work Habits	c	o	t		C	o	r
Works independently							
Works cooperatively							
Listens attentively							
Uses time wisely							
Displays initiative							
Personal organisation							
Completes set work							
Takes care and shows pride in work							
Completes home tasks.							

5.5.3 Research Question 9: What are the major difficulties associated with incorporation of the attributes into teaching and assessment?

5.5.3.1 Time

Demand upon teachers' time was a recurring theme in the workshops, in two ways. First, for those schools that had implemented a lifelong learning framework, references were made to the time that was spent in developing, introducing and improving the strategies and resources necessary to support the frameworks, as well as to the time needed to educate the whole school community about the framework.

"It's time and it's discussion. We have a team work approach. Each year level is a teaching team. They plan their framework together. Some develop totally integrated teaching-learning plans. They take each other's classes. They take workshops and clinics"

"We have spent lots of staff meeting time and staff release time to work on the lifelong learning qualities. You have to ask teachers what they need to implement it – you devise descriptors and strategies. Then each teacher chooses what they need. You have to make it easy for teachers"

A second reference to time pressures suggested a fear that the addition of the attributes of a lifelong learner to the curriculum would be too demanding, due to lack of time for development, full timetables, and the extra time required for assessment and reporting. One suggested place for the attributes was in pastoral care, but one teacher pointed out that she was lucky to find 15 minutes per week of pastoral care time with her students. The allocation of time to pastoral care lessons was considered to be more substantial in the Catholic and Lutheran schools represented in our study.

5.5.3.2 Resources

Participants felt that readily available resources for teaching the attributes were lacking. There was a call for resources that had been trialled in other schools, through other programs such as New Basics, Productive Pedagogies or the trialling of new syllabuses, to be made available to all schools. There was also a call for making available materials that had been developed by individual schools that had taken on a lifelong learning framework, such as the resources developed by some of the schools represented in this study.

"When I go –OK my kids are having trouble with complex thinking, What can I do? I should be able to jump on QSA site and click on complex thinker – there's a whole pile of strategies for me to follow. They assume people know what a complex thinker looks like. We don't teach complex thinker. The reason we don't is that we don't have the resources and this is what QSA should provide. For example, in the new maths syllabus. In the old maths syllabus we had a whole list of – a child will this, this and this... In the new maths syllabus – that information is not coming. There have been schools trialling the new maths syllabus, but there's nothing on the web site from those schools – they've done all this fabulous inventing of all this stuff –

now I've got to reinvent the wheel. So much time has been spent already in developing the resources, but I have no access to it"

Schools already implementing lifelong learning qualities provide models for how resource development can occur. A whole school approach provides support for individual teachers:

"We get support from knowing that everyone is doing it. When we have difficulty we can talk to a colleague and ask them what they are doing. We have sharing time in staff meetings – show other staff what we are doing. Even after all these years, our posters are still up. Our reporting framework is still there. The lifelong learning attributes are still reported in our fortnightly assemblies. Kids are still using the lifelong learning language. The comment bank is still on the common drive. It is not phased out – it keeps going through to Year 12"

5.5.3.3 The Ambiguous Status of the attributes

The attributes are given priority in each QSA syllabus statement, but they are not necessarily valued through assessment and reporting. We have discussed this issue at length in Part 1 and the findings from the workshops reinforce the views expressed there. The varying requirements for assessment make the status of the attributes ambiguous, and this was seen to be a difficulty facing wider implementation of the attributes. It is possible to take the attributes very seriously, and to explicitly include them in teaching-learning designs. It is also possible to pay the attributes lip service, giving them no explicit teaching-learning attention.

5.5.4 Research question 10: From the teachers' perspectives which attributes are, and are not readily understood by students?

This research question can be considered from the perspective of those students who have been exposed to a lifelong learning curriculum. Teachers reported that students had greater difficulty with the cognitive attributes that were not so readily accessible through the observation of overt behaviours. For example, the attribute 'complex thinker' is accessible to teachers who have access to students' work (such as written work and other artefacts). However, complex thinking is not overtly observable to other students and is less commonly made explicit in classroom discussion.

To enhance students' understanding of the lifelong learning attributes, schools that had spent time working with developing the attributes had generated sets of behavioural descriptors for attributes and had worked at introducing those terms into the students' classroom language. For example, one school's teachers developed posters (during dedicated staff meetings) highlighting each of the attributes. The A3 size posters are displayed throughout the school, and provide the language cues that students (and teachers) can use to recognise the development of lifelong learning attributes in themselves and other people.

Some attributes are considered to be relatively easier for students to understand, such as effective communicator, for students can see and hear indicators such as eye contact, clear speaking, and persuasive and well thought out arguments.

5.5.5 Research Question 12: What further support, if any, do teachers need to facilitate the implementation of the attributes?

5.5.5.1 Opportunities for professional development

Schools that have successfully implemented teaching the attributes of lifelong learning have allocated time and resources to professional development over a long period. Teachers spoke enthusiastically about the opportunity to attend workshops by currently popular guest speakers.

5.5.5.2 Opportunities for teachers from different sectors and sections to meet and develop ideas together.

During our workshops we were struck by comments from many participants that these workshops were the first time they had come together with teachers from other sectors (State, Catholic, Lutheran), teachers from other year levels (secondary to primary) and in some cases, teachers from other faculties in the same school. The opportunity to discuss teaching and learning with people from different areas was considered invaluable.

“In T..... - there is a small Catholic school and a huge state school. I have no idea what goes on in the other school. Surely each school would have resources that both would benefit from by sharing”

“M..... and I have been at same school for 18 months – this is the first time she and I have been to an in-service together”

Indeed, the opportunity for whole school discussion was considered an essential element in the successful implementation of lifelong learning frameworks.

5.5.5.3 Further development of the QSA web page

Senior school teachers necessarily visited the QSA web site on a regular basis for information about mandated requirements. Primary school teachers appeared less familiar with the site.

The feedback about the site was not positive. Major criticisms included,

“Words, Words, Words, words, words.....Too many words”

“Difficult to navigate and to find information”

“Different areas are not linked with each other”

The site was not considered to provide support for teaching the attributes, other than the listing of the attributes in Syllabus documents.

It was suggested that the QSA website had the potential to be a valuable resource for teachers, with links to examples of exemplary practices and resources.

It appears also that not all teachers have ready access to reliable technology to access web-based information.

We provided participants with a folder containing copies of syllabus documents, the extended descriptions of the Attributes of a lifelong learner and the QSA *Expect Success* document, which we had downloaded from the QSA website. Some participants indicated that they had never seen some of those documents, suggesting a disruption in the flow of information to individual teachers.

Teachers also commented upon fragmentation between the QSA Preparatory to Year 10 syllabus documents and the need to report on students' progress by Level (levels for reporting do not have a one-to-one alignment with Year levels)

"QSA need to put this on their web page. Don't tell me it's Year One to 12 – tell me its Level"

This difficulty is related to a perceived difficulty with tracking students over the course of their schooling such that teachers can take account of what teaching and learning experiences students have already had in their earlier years of schooling.

"Skills picked up in Years 1 to 7 get lost. During planning, say "What have they been taught in Years 1 to 7?. When they get to my year 8, what skills do they already have?"

A related issue is that teachers observe an apparent lack of planning for transfer of skills from one KLA to another (and that students don't readily transfer their skills from one KLA to another)

"If I click [on the QSA web site] on graphing in SOSE, it should tell me the same stuff in SOSE as in Maths or Science. Graphing is graphing, it doesn't matter whether it is done in SOSE or maths – it's all graphing. And, I'm a SOSE teacher, but then I can click onto maths and find out. These are the skills they already know – this is where they're now at – so I can start from here."

"When I get into the workforce – my boss says to me I want you to present this data – my first reaction would be to say, Do you want me to do it the way I did it in Maths, in SOSE, or in science? It's graphing! – it's not subject specific - it should be all connected. The web site doesn't have that connection"

"I'm always telling my SOSE kids – you've done this in maths – I'm always reminding them this is not new – they have done bar graphs. I'm always looking for pieces where we link up. We never actually sit down and link up."

5.5.5.4 Parent and community education

A major concern raised by participants was the need for schools to meet parents' expectations about the nature of the education provided for their children. Teachers in schools operating from a lifelong learning framework explained that considerable resources and time had been allocated to educating parents about the school's lifelong

learning focus. Although this had been successful, with parents now talking the language of lifelong learning, it was not seen to be a simple or quick process.

Concerns were raised that as different schools operate in different social contexts, some parents have expectations about the roles of schools that were formed from their own (often negative) experiences of schooling in earlier times. In some areas, some parents and their children were not seen to value education, and some teachers told how it can be difficult to encourage parents to attend parent-teacher evenings, sometimes having more teachers and students turn up to a parent evening than parents:

“Parents think that if they go to school they will get the cane”

Questions were raised about whose responsibility it is to educate parents about contemporary roles of schools, especially at the state level.

“QSA can’t say we’ve come up with a 30 page document now it’s teachers’ responsibility to educate themselves, students and the general public about it. QSA need to take responsibility for doing that”

“The government needs to take responsibility for that”

The teachers did not appear to be just complaining for complaining’s sake. Some had put considerable effort into parent education in order to have a lifelong learning framework accepted by the parent community. The above comments indicated that there was a need for explicit system level recognition of the attributes that would constitute the initial contact with the parents across the state. Schools could then build upon this initial level of parent understanding.

5.5.5.5 Assessment and Reporting

Reporting requirements at the senior levels are seen as very demanding, and to often get in the way of teaching and learning. Indeed, the burden of assessment and reporting was a very strong theme advanced forcefully by some of the secondary teacher participants.

“QSA is into policy – documentation – data – they don’t see the good stuff”

“EQ & QSA – Don’t get to see what teaching is about”

“What really counts in teaching are the intangible chats that occur between teacher and students, the teacher–student relationships, you can’t document that”

Assessment that informs improved teaching and learning experiences should be energizing, but the message from our workshops is that assessment can often be seen as draining and all consuming in the senior years.

“Death by a Thousand Outcomes”

An area of concern for participants appeared to be a disjunction that occurs between an outcomes based assessment and reporting framework for years Preparatory to Year 10,

which changes to a criterion based assessment and reporting system in the senior school

“Outcomes based assessment gets kids to Year 11. It allows a kid at Level 4 to enter Year 11, when Year 11 expects a kid to be at Level 6. Then suddenly they are assessed against the standards. What are we supposed to do with those kids who have just had their outcomes reported and have never been told that their performance is not up to the required level for Year 11? It’s a big shock.”

“How do students cope in high school when primary teachers create their own criteria”

Such comments point to another issue, beyond the scope of this report: Some confusion exist between differentiating the progression of students over year levels compared to students’ progression over achievement levels. Teachers told how students can progress through year levels without progressing through achievement levels, eventually causing substantial difficulties for some students and their teachers when the students reach the secondary years.

5.6 Implications for policy

In this section we consider possible implications of the workshop outcomes for QSA. In this process we describe possible courses of action that might be considered by QSA.

5.6.1 Recognition of differences in the way that Attributes of a Lifelong Learner are positioned in the school curriculum

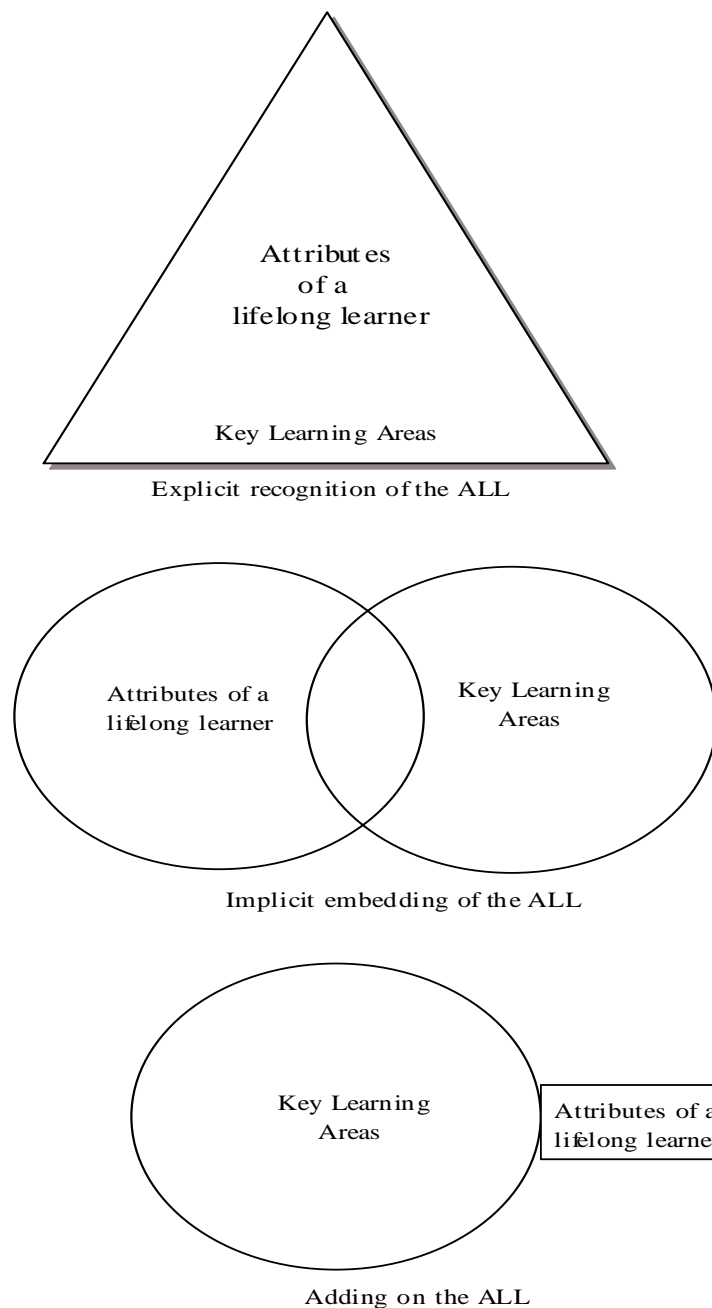
The workshops revealed quite different positioning of the attributes in different schools. If such differences are widespread across Queensland schools, and we suggest that this is likely to be the case, QSA needs to give due recognition to this wide divergence of understanding and use of the attributes.

Three approaches to incorporating the attributes into school curricula emerged from the workshops. The first perspective is where the whole school adopts a lifelong learning framework as its underlying philosophy or framework for curriculum development, and explicitly lays the subject-matter or key learning area over that attributes framework. In this approach, for example, developing complex thinking might be the objective, and a maths activity might be the vehicle for attaining that objective.

The second approach is where teachers begin with the key learning areas (KLAs), and serendipitously match lifelong learning attributes to regular KLA tasks. This may well be the most common perspective, at least for some of the attributes such as deep knowledge and complex thinking, but not for others. Assessment and reporting within this approach may be facilitated by the use of a grid, with KLAs as column headings, and attributes as row headings. In this approach, for example, learning how to solve quadratic equations in the key learning area of maths is the objective, and the matching cell for complex thinking can be ticked on the grid.

The third perspective is that the attributes are seen to be separate from, added on to, the KLAs. This perspective might have two variants: 1) the attributes and the KLAs would be treated as distinct in teaching, assessment and reporting, or 2) the attributes might be addressed in a distinct way in teaching, but not formally assessed or reported on.

We illustrate the various conceptualisations of the attributes in Figure 1:



5.6.1.1 Figure 1: Three different conceptualisations of the place of the attributes in school curricula

It is possible that confusion lies in uncertainty about whether the attributes are like KLAs, with outcome statements and assessment requirements, or whether the attributes are more overriding general principles.

Take the statement “*teachers must live the attributes in order to teach them.*” That is, teachers must be effective communicators, and so on. It was not considered that subject-matter teachers should ‘live’ their subject-matter in the same way. We don’t say “Science teachers must live science’ in the same sense as ‘teachers must be lifelong learners too.’”

“You must value the valued attributes. If a school doesn’t value them at policy level, then they won’t get implemented. What is assessed at Yr 12 for OP is valued – you must do the same with the attributes. You must show the values in the work that you do”

One teacher told how she had recently written a job application using her school’s lifelong learning qualities as the framework of the application. This is a demonstration of how the valued attributes are applicable to all areas of life – not just to school curricula.

“Lifelong learning is all about how you think about your teaching”

If the attributes are identified as the guiding principles for the school curriculum, where does the assessment imperative lie? In such schools the attributes represent the *raison d’être* for the school and so it seems logical that judgments of progress for the school and for the students should be made in terms of the attributes. Therefore, in these schools the attributes are likely to be explicit parts of

- classroom activities
- formative assessment
- student work portfolios
- summative assessments in school reports
- personal references
- teacher-student-parent conferences
- in self-reflection and self-assessment

In listening to the reports from teachers working at schools with lifelong learning mission statements, it is clear that a lifelong learning framework has the potential to unify teachers’ goals and teachers’ work across KLAS, and across the whole school and broader community. The attributes can provide a common purpose that answers the question

“What kind of students do we want to turn out?”

Evidence from the teacher workshops is that assessment of the attributes may occur at none of these locations in other schools. Indeed, participants in our workshops seemed to be distributed across each of the three representations shown in Figure 1. Furthermore, the reports of participants indicated that there was a strong degree of inertia associated with the current situations in their schools that would make change difficult.

The strong impression from workshops and interviews was that teachers positioned themselves, and their schools, quite strongly in their preferred model (explicit, implicit, adding on) of how the attributes fitted into the overall curriculum design.

5.6.2 The potential of collaborative teacher workshops for professional development

As our workshops progressed we noticed a shift in the attitudes of those teachers who had little prior experience with the lifelong learning attributes. This may have come about by the teachers being exposed to the ways that some participants and their schools were practically implementing the attributes in their whole school curriculum.

“I started of at the bottom statement [a subject teacher] but after this conversation I’m at the top [an attributes teacher]. I think this is where we need to be...when our children leave school – this is what our children should be – those 6 or 7 things”

Thus, one benefit of our data gathering workshops has been the provision of evidence about the degree to which teachers constructed new knowledge about teaching the Attributes of a Lifelong Learner through the opportunity that the workshops provided for them to exchange ideas with teachers from other schools. On reflection, these workshops have provided a useful model for professional development, one that could be used by QSA if it decides to change the status of the attributes. There is an existing resource of experienced, enthusiastic teachers (such as some of those who attended our workshops) who could provide a resource for professional development and mentoring in the design and implementation of curricula based upon the attributes

One potential way forward would be for QSA to call for schools who are interested in innovating in the area of developing the attributes of lifelong learning. Pairing innovative schools who have worked on the attributes with schools who have not might be a useful strategy. There seems particular potential to pair Secondary schools with Primary schools in order to develop more defined pathways across year levels. This opportunity was particularly noted by workshop participants who expressed how useful it was to have the chance to exchange ideas between primary and secondary teachers. Pairing state schools with schools from other systems also has potential in the area of lifelong learning, as many Lutheran and Catholic systems have developed substantial commitment and resources in this area. With the establishment of such groups of experienced practitioners it would be useful to run some in-class experiments, perhaps in the nature of teacher action-research, that could further inform Quay’s interest in the attributes of a lifelong learner.

The place of the attributes for lifelong learning in pre-service teacher education must also be considered. This issue was not raised by workshop participants, however it hovers behind both the lack of knowledge that some teachers have about the attributes, and also behind the extensive professional development that has been required for teachers in schools where the attributes have been adopted.

It is perhaps useful to conceptualise the attributes as fluid, not static, and to bring together representatives from various bodies (QSA, Education Queensland, Universities, School Sector management and Schools) to consider how the attributes are currently enacted in different teaching and learning environments.

We also make reference here to our Stage One report, which recognized the value of a general set of aims for education, such as the attributes, but pointed out that the current

list of attributes in QSA documents omitted motivational, metacognitive and situational aspects of teaching and learning.

5.6.3 The value placed on the attributes by QSA

The evidence from the workshops suggests that teachers are not clear about the position of QSA with respect to the attributes.

From the responses collected from teachers in this study, it appears that there is a communication breakdown between what is mandated as important in curriculum documents, what is valued through QSA procedures and subsequent school actions, and what is recognized as important at the grass roots level.

If the attributes are to be valued by most teachers, then they need to be explicitly valued by QSA in the outcomes that students are expected to achieve.

5.6.4 An educational task for QSA

And if the attributes are to be used by most teachers, QSA has a substantial educational task with respect to teachers' knowledge about the attributes. A web site, or a set of curriculum documents, is not a program of information dissemination and professional development for teachers. The indicated existence of a group of teachers who do not feel efficacious about teaching the attributes provides evidence of the educational task that QSA has with respect to the attributes.

Queensland Education and the other education systems appear to have substantial resources of knowledge and materials that could be marshalled for such an educational task. The expertise developed by the teachers in such schools is a resource that could be used to provide education to other teachers about the possibilities for developing the attributes.

5.6.5 Collecting a broader range of teachers' perspectives

This is a small sample study. There will be value in QSA conducting an investigation across a larger range of teachers.

5.6.6 Adapting the attributes to different contexts

Determining the content of the mandated list of attributes, and providing flexibility of interpretation for different contexts will require consultation with, and education of, school communities. The experiences of schools where the attributes have been central to the mission of a school indicate that parent education about the attributes is necessary. One component of this parent education would need to be involvement of QSA, perhaps in partnership with Ministers and Education Queensland, to establish the 'official' importance of the attributes for the community.

5.6.7 Developing resources

It has become clear that there is a need to develop materials that support the teaching and learning of the attributes. The huge investment of resources by individual schools to operationalise the attributes has been exemplary at individual school level, but is inefficient at the state level. Responsibility for developing support materials needs to be shared and distributed. Substantial resources already exist within the Queensland schools, but the knowledge and expertise tends to be isolated and not readily available to other people and sectors in the education system. QSA could play a key role in coordinating existing resources and stimulating the development of new resources.

5.6.8 The perceived assessment and reporting burden

Participants' extensive and diverse responses to issues of assessment suggest strongly that the inclusion of the attributes in assessment and reporting cannot be designed in such a way that it becomes another reporting burden on teachers.

Some of the attributes are already included in many things that students and teachers do, even though they may not be an explicit focus in assessment and reporting. It is suggested that it would not be too difficult to move from this position to one where these attributes could become part of a school's assessment and reporting framework. Suggestions from the workshops include adapting existing report cards and school references, and to include reports on capabilities developed by students in the broader curriculum (such as work experience), although we do not suggest that the development of the attributes be relegated to areas outside of the Key Learning Areas.

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8 APPENDIX A: Letter of introduction



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Telephone: (+61 8) 8201 2829
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Dear

You may have been contacted by Michelle Young from the Catholic Education Office about participating in a research project I am undertaking for the Queensland Studies Authority.

Along with two colleagues, I am examining the status of the attributes of lifelong learning that are discussed in QSA syllabus documents. The first part of our project involved a review of the theoretical status of these attributes. The second part involves consideration of the views held by teachers about the attributes and their use in teaching. It is for this second part of the project that you have been contacted.

During July and August we will run two half-day workshops with teachers in Brisbane and will maintain contact with teachers between workshops via email. If possible we would like to involve two teachers from your school in these workshops. We will be able to offer some funds for teacher replacement costs for these two half days.

The workshops will enable us to gather teachers' perspectives on the attributes, their usefulness in teaching and difficulties associated with their use. We will be interested to hear teachers' views on how the attributes are being used, or how they could be used, in classrooms so that they form a meaningful part of classroom teaching and learning.

If possible we would like to involve teachers who have an interest in how the attributes of lifelong learning can be applied in a practical manner in classroom activity and how they might be assessed. Our report on the outcome of the workshops would be made available to all participants.

I have enclosed an information sheet on the project along with a letter that forms part of the ethics approval process at this university. I have also made formal application to the Catholic Education Office for permission to undertake this project.

Our current plan is to run the workshops on the mornings of July 29 and August 12 and it would be helpful if you could let me know by email whether teachers at your school would be interested and available for involvement in the workshops on those dates.

I can be reached on (08) 8201 2829 or by email if you have any questions about the project. I have also posted a copy of this letter to you. Thank you for your consideration of this project

Michael Lawson
Professor
School of Education

9 APPENDIX B: Consent form

CONSENT FORM FOR PARTICIPATION IN RESEARCH

I
 being over the age of 18 years hereby consent to participate as requested in a workshop group, maintaining a journal and contributing to an online forum, for the research project on teaching the attributes of the lifelong learner in schools.
 I have read the information provided.
 Details of procedures and any risks have been explained to my satisfaction.
 I agree to my information and participation being recorded on audio tape.
 I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.
 I understand that:
 I may not directly benefit from taking part in this research.
 I am free to withdraw from the project at any time and am free to decline to answer particular questions.
 While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
 The security of information submitted online cannot be guaranteed
 Whether I participate or not, or withdraw after participating, will have no effect on any treatment or service that is being provided to me.
 Whether I participate or not, or withdraw after participating, will have no effect on my employment.
 I may ask that the recording/observation be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.
 I agree/do not agree* to the tape and interview transcript being made available to other researchers who are members of this research team on condition that my identity is not revealed
 I have had the opportunity to discuss taking part in this research with a family member or friend.

Participant's signature.....Date.....

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name.....

Researcher's signature.....Date.....

10 APPENDIX C: Teacher workshops on the attributes of a lifelong learner: Outline of sessions

Schedule	Format	Purpose	Activity	Time
Sept 2 nd , 2005	Session 1	Purpose of sessions:	Powerpoint presentation: Outline research project	8:45
		Research questions 3, 4, 5 In what ways do teachers understand the attributes	Pairs discussion: What would a student possessing (one of) the attributes look like? What are the indicators at your year level? Whole group discussion: Pairs feedback to whole group about the indicators of their attributes.: Group suggestions to add to the indicators for each attributes. Give yourself a rating: How well do you understand the attributes?	9:00 9:20 9:40 9:55
	Morning tea			10:00
	Session 2	Research question 6 Review selected syllabus documents	General introduction to current syllabus documents: Read documents Half/third group discussions. Consider these documents about the attributes. Are some of the attributes more/less important to develop for your class of kids? Why? Whole group activity Provocative questions. Individual written response to Research question 6 Closure & lead to next sessions	10:30 10:45 11:15 11:30 11:45
	Close			12:00
	Between-sessions homework (!)	Reflection on issues raised in sessions 1 & 2	Complete the teacher survey. Ask a couple of professional colleagues to complete it also. Ask a couple of professional colleagues the following questions (record their answers) “Do you use the attributes to guide your teaching practice. If so, how do you do that?” Bring an example from your teaching or students’ learning that incorporates an attributes	

Sept 9th, 2005	Session 3	Feedback to group Research questions 7, 8, 9, 10 Identify practical implications of attributes	Report back on colleagues' views Summary of own and colleagues responses under thematic headings, Record key points in your Notebook, e.g., : 1) Teaching strategies 2) Assessment & reporting 3) Difficulties 4) Students' understandings 5) Other What happens about the attributes in your school? <i>Show and Tell</i>	9:00 9:30
	Morning tea			10:00
	Session 4	Research questions 11, 12 Design outcome statements for attributes for incorporation in official documentation	Imagine that you are designing an assessment and reporting framework for Years 11 and 12 that includes two (2) of the attributes and would be meaningful for teachers, parents, and employers. How would you do this? (Small groups) Report back to whole group Whole group response to "If QSA or your school proposes to make the attributes more central in the curriculum, what needs to be done to engage the teachers?" Record your ideas in your Notebook.	10:30 11:00 11:30
	Close			12:00

11 APPENDIX D: Teaching about the attributes of the lifelong learner questionnaire

- ID code.....
- Teaching subject specialisation(s).....
- Years of teaching experience.....
- Current position.....

This questionnaire relates to the seven attributes of the lifelong learner (7-ALL) that are prescribed in Queensland syllabus documents. The seven attributes are

- A knowledgeable person with a deep understanding
- An active investigator
- A complex thinker
- A creative person
- An effective communicator
- A participant in an interdependent world
- A reflective and self-directed learner

For each statement, please circle the number that indicates the extent to which you agree or disagree.

1. I can effectively use available resources for teaching my class about the 7-ALL	strongly disagree disagree neutral agree strongly agree	1 2 3 4 5 6 7
2. I can motivate students who show a low interest in learning about the 7-ALL	strongly disagree disagree neutral agree strongly agree	1 2 3 4 5 6 7
3. I can effectively deal with students' questions about the 7-ALL.	strongly disagree disagree neutral agree strongly agree	1 2 3 4 5 6 7
4. I can overcome negative peer group and community attitudes that might affect students' learning about the 7-ALL	strongly disagree disagree neutral agree strongly agree	1 2 3 4 5 6 7
5. I can teach about the 7-ALL as well as I can teach my other subjects.	strongly disagree disagree neutral agree strongly agree	1 2 3 4 5 6 7
6. I can continually invent better ways to teach about the 7-ALL.	strongly disagree disagree neutral agree strongly agree	1 2 3 4 5 6 7
7. I can understand concepts about lifelong learning well enough to teach about the 7-ALL effectively.	strongly disagree disagree neutral agree strongly agree	1 2 3 4 5 6 7

8. I can help students to develop a good understanding about the 7-ALL.	strongly disagree	disagree	neutral	agree	strongly agree
	1.....	2.....	3.....	4.....	5.....6.....7
9. I can promote learning about the 7-ALL whether or not there is support from the student's home.	strongly disagree	disagree	neutral	agree	strongly agree
	1.....	2.....	3.....	4.....	5.....6.....7
10. I can establish a supportive learning environment for my class when they are learning about the 7-ALL.	strongly disagree	disagree	neutral	agree	strongly agree
	1.....	2.....	3.....	4.....	5.....6.....7
11. I can help students tap into their prior knowledge to facilitate their learning about the 7-ALL.	strongly disagree	disagree	neutral	agree	strongly agree
	1.....	2.....	3.....	4.....	5.....6.....7
12. I can help students to examine their beliefs and attitudes about the 7-ALL	strongly disagree	disagree	neutral	agree	strongly agree
	1.....	2.....	3.....	4.....	5.....6.....7
13. I can implement a variety of different teaching-activities when teaching about the 7-ALL	strongly disagree	disagree	neutral	agree	strongly agree
	1.....	2.....	3.....	4.....	5.....6.....7
14. I can effectively evaluate students' knowledge about the 7-ALL	strongly disagree	disagree	neutral	agree	strongly agree
	1.....	2.....	3.....	4.....	5.....6.....7
15. I can effectively evaluate students' attitudes about the 7-ALL	strongly disagree	disagree	neutral	agree	strongly agree
	1.....	2.....	3.....	4.....	5.....6.....7
16. I can help students to apply their knowledge about the 7-ALL to their every day life	strongly disagree	disagree	neutral	agree	strongly agree
	1.....	2.....	3.....	4.....	5.....6.....7
17. I can effectively deal with issues about the 7-ALL that students might raise	strongly disagree	disagree	neutral	agree	strongly agree
	1.....	2.....	3.....	4.....	5.....6.....7
18. I can confidently teach about the 7-ALL	strongly disagree	disagree	neutral	agree	strongly agree
	1.....	2.....	3.....	4.....	5.....6.....7
19. I can see how the 7-ALL fit into the broader school curriculum	strongly disagree	disagree	neutral	agree	strongly agree
	1.....	2.....	3.....	4.....	5.....6.....7

20. I can accommodate the different learning needs of individual students in teaching about the 7-ALL	strongly disagree	disagree	neutral	agree	strongly agree
	1.....	2.....	3.....	4.....	5.....6.....7
21. I can work with individual students who have specific concerns when learning about the 7-ALL	strongly disagree	disagree	neutral	agree	strongly agree
	1.....	2.....	3.....	4.....	5.....6.....7
22. I can help my students relate their learning about the 7-ALL to other areas of the curriculum	strongly disagree	disagree	neutral	agree	strongly agree
	1.....	2.....	3.....	4.....	5.....6.....7

Please identify any issues for you as a teacher in covering the 7-ALL in your teaching. Your comments will help to focus the directions of our workshop discussions.

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