The Era of Lifelong Learning: Implications for Secondary Schools

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The era of lifelong learning: implications for secondary schools

Jennifer Bryce, Tracey Frigo, Phillip McKenzie and Graeme Withers
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- assessment and reporting to improve learning
- improving literacy and numeracy learning
- improving outcomes for Indigenous students
- teaching practices to improve learning
- vocational outcomes and lifelong learning
The era of lifelong learning: implications for secondary schools

Jennifer Bryce, Tracey Frigo, Phillip McKenzie and Graeme Withers
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>What this paper is about</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why is this an era of lifelong learning?</td>
<td>3</td>
</tr>
<tr>
<td>Implications for the individual</td>
<td>5</td>
</tr>
<tr>
<td>Implications for schools</td>
<td>7</td>
</tr>
<tr>
<td>Key areas for school action</td>
<td>9</td>
</tr>
<tr>
<td>Information literacy</td>
<td>10</td>
</tr>
<tr>
<td>Implications for the student</td>
<td>10</td>
</tr>
<tr>
<td>Implications for schools</td>
<td>11</td>
</tr>
<tr>
<td>Assessment of information literacy skills</td>
<td>12</td>
</tr>
<tr>
<td>The overcrowded curriculum</td>
<td>13</td>
</tr>
<tr>
<td>Questioning, reasoning and evaluating</td>
<td>14</td>
</tr>
<tr>
<td>Values, dispositions and attitudes</td>
<td>15</td>
</tr>
<tr>
<td>Implications for the individual</td>
<td>15</td>
</tr>
<tr>
<td>Skill sets beyond the ‘basic’</td>
<td>17</td>
</tr>
<tr>
<td>Problem-solving skills</td>
<td>17</td>
</tr>
<tr>
<td>Communication skills</td>
<td>18</td>
</tr>
<tr>
<td>Implications for students</td>
<td>19</td>
</tr>
<tr>
<td>Implications for schools</td>
<td>20</td>
</tr>
<tr>
<td>One’s self and one’s learning</td>
<td>21</td>
</tr>
<tr>
<td>Developing a strong learner self-concept</td>
<td>21</td>
</tr>
<tr>
<td>Assessment and self-concept</td>
<td>22</td>
</tr>
<tr>
<td>Learning how to learn</td>
<td>23</td>
</tr>
<tr>
<td>Encouraging deep learning</td>
<td>24</td>
</tr>
<tr>
<td>Developing metacognitive skills</td>
<td>24</td>
</tr>
<tr>
<td>Helping young people construct their own knowledge</td>
<td>26</td>
</tr>
<tr>
<td>Providing an engaging context for learning</td>
<td>26</td>
</tr>
<tr>
<td>Implications for schools</td>
<td>27</td>
</tr>
<tr>
<td>Conclusion and summary tables</td>
<td>30</td>
</tr>
<tr>
<td>How can schools assess their progress towards lifelong learning?</td>
<td>30</td>
</tr>
<tr>
<td>The journey to lifelong learning</td>
<td>34</td>
</tr>
<tr>
<td>References</td>
<td>35</td>
</tr>
<tr>
<td>Websites</td>
<td>36</td>
</tr>
<tr>
<td>Acknowledgments</td>
<td>38</td>
</tr>
</tbody>
</table>
WHAT THIS PAPER IS ABOUT

Knowledge will increase and change in every sphere of life, and people will need to be in a constant state of learning. This era of lifelong learning needs to be considered.

This paper is concerned with the role that schools can play in engaging young people in their learning, and helping them to develop skills and attitudes that will give them an orientation towards learning for life. To meet the needs of an era of lifelong learning schools need to view themselves as a stage, and a vastly important one, in the ongoing learning process, where the skills essential to a lifetime engagement in learning are acquired, honed and developed.

The paper starts by asking just why this should be considered an age of lifelong learning. It then focuses on a range of specific issues for individuals and schools, and suggests how people can become lifelong learners, and what schools can do to help young people develop the attributes and characteristics of learning that will serve them throughout life. The final section of the paper offers a summary of what lifelong learning implies for secondary schools, teachers and students, and a list of resources for further work.

What precisely is lifelong learning? Is it just another concept that excites attention for a while but then fades because it ultimately fails to deliver? Is it simply old ideas that have been repackaged for new times? Or does lifelong learning offer something that is genuinely innovative and fresh? And what does it all mean for schools? How would a lifelong learning orientation transform what schools currently do? This paper offers some positive answers to the last two questions, and the strategies which underpin them.

In this paper we suggest that a key change for secondary schools is to immerse their students, to a greater degree than ever before, in the world outside school – particularly the world of work. This will involve not just simple work experiences, as in the past, but giving opportunities for developing and honing personal skills, particularly in information technology, boosting self-esteem and personal confidence, and maximising opportunities for the display of enquiry, enterprise and imagination in the world beyond the school fence.
What could it mean to be a lifelong learner at secondary school?

We're good at finding and sorting information.

We are flexible.

We're open to change and we're happy to adapt.

We are comfortable about taking risks in class.

Before we start something we think about where our strengths lie.

We often ask ourselves: am I going in the right direction? (Our teachers help us to think about this.)

We reflect and think about our progress.

We build on what we've learnt and make links with other learning areas, and community and global issues.

We often work together.

We enjoy surfing the net.

We are problem-solvers.

We plan ahead.

We are well organised.

We like to adapt new technology to our everyday lives.
WHY IS THIS AN ERA OF LIFELONG LEARNING?

In Australia many of the features of the post-industrial society predicted by Barry Jones in 1982 are now evident:

- a sharp reduction in the number of people engaged in routine or repetitive work;
- a number of personalised service occupations now being fulfilled by computerised technology (such as electronic mail delivery);
- a decrease in the number of workers employed in manufacturing;
- increasing anxiety about the depletion of the world’s resources; and
- a mounting tension between those who are information rich (who are employed, affluent and have access to further riches) and those who are information poor, who are often subsisting on income support and have little chance to expand their learning horizons.

Forecasters of thirty or so years ago reached the conclusion that this might be an Age of Leisure, but events have developed somewhat differently. For the many unemployed, there is free time but it is hardly leisurely, and is fraught with the problems of getting a job or otherwise supporting oneself. For the many who are employed, changes in working conditions and the advances in technology have meant increased expectations of what can be accomplished in the workplace and a great deal of stress which comes with meeting those expectations.

There has been considerable discussion about the need for flexibility and adaptability to meet the frequently changing work environment, and many leading industrialised countries have generated lists of generic employment-related skills needed by young people in preparation for the world of work (the prime example in Australia is the Mayer Key Competencies, published in 1992). It is now generally recognised that generic conceptions of this kind are an essential basis for all forms of post-compulsory education and training (Robinson, 2000, p. 28).

This diverse situation is reflected in views on lifelong learning. There is often a gap between perceived understandings. For example, the OECD (1998) has characterised Australia as one of the countries where discussions on lifelong learning tend to emphasise skills training and retraining for improving employability and economic competitiveness. Japan, by contrast, is seen as paying relatively more attention to the potential contribution of lifelong learning to citizenship, and a better enjoyment of life, especially in light of that country’s ageing population.
In this paper we are trying to encompass both sides of this gap. We are therefore focusing on what seem to be the most appropriate approaches to learning, both from the purposeful, self-improvement point of view, and from the employment-related, self-advancement one. It is notable that education systems are taking on this type of holistic orientation as they grapple with the definition of new skill and knowledge requirements. For example, there are major reforms in the South Australian, Western Australian and Victorian systems. In South Australia ‘essential learnings’ express cross-curricular values, dispositions, skills and understandings which focus on thinking, identify, interdependence (connection with others and the world), optimism about shaping the future and capability to make powerful use of literacies, numeracy and learning technologies.

At the first Global Conference on Lifelong Learning the major issues for schools, as they grapple with new skill and knowledge requirements, were linked to four types of generic skills, shown in the following diagram (Longworth and Davies, 1996).

CLOSING THE GAP

How might Lifelong Learning benefit educational policy and planning?

In AUSTRALIA there is an emphasis on lifelong learning’s contribution
• through skills training;
• through retraining for continued employability;
• in regard to economic considerations.

In JAPAN, there is more of an emphasis on lifelong learning’s
• potential contribution to citizenship;
• promotion of better enjoyment of life;
• ensuring a continued full, rich life into old age.

Well planned lifelong learning policies and procedures are inclusive of both of the above attitudes or streams.
In this paper we explore some of the key issues for Australian secondary schools as they seek to put this challenging agenda into effect. Our analysis has two main messages. Most schools are already engaged to varying degrees in many of the elements summarised in the diagram. However – and this is the challenging part – these elements are not normally brought together in ways that build on and reinforce each other. The paper argues that the traditional focus of much schooling on ‘Learning Skills’ (the bottom left-hand corner of the diagram) will be much more effective in lifelong learning terms if designed around students developing personal learning plans (‘Enabling Skills’) linked to settings outside the classroom (‘Social Skills’) oriented towards more applied learning (‘Life Skills’).

**Implications for the individual**

In an era when access to knowledge and communication can be achieved almost instantaneously, it is obvious that information technology and its related skills and abilities play a huge role, and are likely to become even more central. The necessity to be an adventurous and inquisitive learner, as well as adaptable and flexible, is paramount. The means to be such a person have enlarged and diversified: what is necessary is access to these means, and the skills, knowledge and motivation to use them effectively. The workplace gives such access to many – others have it at home. Cybercafes and connection facilities at libraries and elsewhere in the community offer it to others.
But the cyber-revolution is primarily a means to learning (even though it carries its own learning load). The field is broader. Ongoing economic and social changes have increased the importance of up-to-date skills and knowledge. The complexities of modern societies require people to be open to new ideas and adept at new ways of doing things. Those who are not able to anticipate and adapt to change – to continue learning throughout their lives – are likely to become increasingly marginalised in economic and social life.

The foregoing suggests that school leavers will require

- literacy competence with print and electronic media;
- critical thinking and analytic skills for coping with complex community changes and uncertainty in job markets, economies and workplaces; and
- commitment to and resources for retraining across their lifespans using a range of media, print and electronic.

Lifelong learners have a positive attitude towards learning and about themselves as learners. They are commonly described in terms of their curiosity, interest and enthusiasm for learning. Researchers such as Candy et al. (1994) refer to the learner’s ‘inquiring mind’ (their love of learning and critical spirit) and their sense of ‘personal agency’.

So what does this suggest that lifelong learning actually is for a person? Here is one attempt at a definitional statement:

Lifelong learning is far broader than the provision of second-chance education and training for adults. It is based on the view that everyone should be able, motivated, and actively encouraged to learn throughout life. This view of learning embraces individual and social development of all kinds and in all settings: formally, in schools, vocational, tertiary and adult education institutions; and non-formally, at home, at work and in the community.

OECD, 1997

Here is another similarly broad definition:

Lifelong learning is the development of human potential through a continuously supportive process which stimulates and empowers individuals to acquire all the knowledge, values, skills and understanding they will require throughout their lifetimes and to apply them with confidence, creativity and enjoyment in all roles, circumstances, and environments.


In both definitions, both sides of the ‘gap’ mentioned earlier are encompassed – the personal and the vocational are both accommodated. ‘All roles’ are foreseen as being supported by lifelong learning, not least because it is now much harder to separate ‘vocational’ from ‘personal’ skills.
Implications for schools

Many schools will ask, regarding a paper such as this: ‘But how does a lifelong learning approach essentially differ from what we do now?’ A good question – and one which we shall try to answer successively as each section is explored. In most aspects of school process there is no difference. Indeed the central role of schools, in equipping students with essential attributes and abilities, to the utmost of their capacities, will not change at all. But what is now to be considered ‘essential’ has indeed changed, or rather enlarged in scope far beyond ‘basic skills’ and previous notions of ‘core curriculum’.

Change and enlargement of boundaries are both constants in educational theory and practice. For example, as a result of the Industrial Revolution which straddled the eighteenth and nineteenth centuries, people had to learn to work with machines, and what ‘education’ was provided in the workplace valued precision, regularity, predictability, and being able to follow patterns. Early in the period this ‘education’ was rarely formal, and generally provided in the form of rules for workplace behaviour rather than training courses. As the nineteenth century progressed, it became obvious that universal (or near-universal) general education was vital, not only to supply factories with a new breed of worker, but as a fundamental expression of human rights.

By the end of the nineteenth century ‘intelligence’ was mainly conceived of in terms of logico-deductive reasoning – witness the early intelligence tests, such as those of Binet, developed to identify children who were found to be unable to cope with the schooling of the late nineteenth century, dominated as it was by rote learning and the following of predictable patterns. Being ‘intelligent’ no longer necessarily means primarily being good at maths, or its extensions into verbal logic. Influenced in part by a world which values diversity and flexibility, definitions of intelligence today are more fluid and less constrained than early in the twentieth century. Current definitions refer to practical intelligence, multiple intelligences and an acknowledgment that feelings may play a more significant role in thinking than we once imagined.

Schools are geared for change, either from within, with school reviews, professional development and the like, or imposed from without, in terms of curriculum mandates or policy directives. Communicating this readiness to change to its students is the key to many other forms of learning success. At the end of this paper a summary is offered of the many and diverse aspects of lifelong learning policies and procedures which a school might encompass; for now, the table below serves as an introduction to the field.
Our discussion of lifelong learning and school education will focus particularly on young people at secondary school – a time of considerable change and development. During these years most young people are engaged in a process of sorting out who they are, the values they support, their interests, and with whom they identify. Integral to this process is the development of an identity as a learner.

### CHARACTERISTICS OF A LIFELONG LEARNING SCHOOL

Such a school

- has a written organisational strategy, available to all, for developing the full human potential of each student and member of staff;
- involves students and staff in the maintenance of a culture of quality and respect for high standards in everything it does, and in continuous improvement programs for staff;
- increases the resources available to the school by harnessing the skills, talents and knowledge of administrators, parents, business leaders and other members of the community, to create new learning opportunities and implement school strategies;
- makes links with the world of work which enrich students’ knowledge and experience and facilitate a ‘learning’ approach to adult life;
- develops a curriculum based on the enhancement of personal skills and values to improve knowledge and understanding, and to enable students to manage change through their lives;
- uses modern information and communication technologies widely across all disciplines, including the exploration of collaborative learning opportunities through networks;
- looks outward to the world, promoting a sense of tolerance, justice and understanding of different races, creeds and cultures in all students;
- stimulates home–school cooperation and involves the family in the life and work of the school;
- expands lifelong learning in all its students and staff by involving them in the development of personal learning plans, guides and mentors;
- broadens the vision of staff and students through a wide range of cultural experiences and extracurricular activities;
- celebrates learning frequently as a desirable, permanent and enjoyable habit for all.

Based on Longworth and Davies, 1996, p. 43.
Many young people will be seriously considering their post-school futures, particularly as they move into Years 11 and 12. Some will be pursuing part-time work, which may involve various combinations of work and study. These students need to be helped to draw on the resources provided by vocational experiences to help them make connections between the context of school and the wider community, including the world of work.

But making connections between learning and working is important for all secondary students, not just those studying vocational subjects. This is explicitly recognised in the National Goals for Schooling recently endorsed by State and Territory Education Ministers. Among the key goals is the following:

When students leave schools they should:

- have employment related skills and an understanding of the work environment, career options and pathways as a foundation for, and positive attitudes towards, vocational education and training, further education, employment and life-long learning. (MCEETYA, 1999)

This goal requires that all students be prepared for both work and further learning, and that all students, whether headed for further education or directly into the labour market, will benefit from a curriculum that combines a strong general education with the development of employment-oriented skills and knowledge.

Research by the OECD (2000) indicates that the fastest growth in secondary school programs around the world is where qualifications can lead either to work or to further study. This approach is attractive because it encourages young people to have a lifelong learning outlook, seeing the world of work and the world of study as a fine, intricate mesh.

**Key areas for school action**

The remainder of this paper considers some of the key areas in which schools can prepare school leavers so that they have a lifelong learning orientation. The discussion covers

- the importance of becoming an ‘information literate’ individual;
- the need to question, reason about, justify the relevance of, and evaluate information;
- the values, dispositions and attitudes associated with lifelong learning;
- generic skills that promote lifelong learning;
- the way that a strong personal self-concept assists learning, and ways this can be developed; and
- ways of helping people learn how to learn.
The key word to start with is information. Briefly, the field can be broken down into collecting, sorting, analysing, combining and using information. The keys to acquiring and managing information, even in a cybernetically oriented world are not themselves cybernetic facts. The keys are, of course, the basics of word and number, as they have always been. Despite occasional attempts to raise symbols, icons, logos and such to a similar status and power as communication media, what they (like numbers) communicate has a fundamental verbal underpinning. Learning of all this begins early, fuelled by young children’s natural curiosity and capacity for play and exploration.

At primary school students move on quickly from basic literacy, to develop a rich repertoire of linguistic and metalinguistic abilities for which the word ‘skills’ is too puny a word. By the end of primary school they can explore dimensions such as critical reasoning, aesthetic appreciation and other language activities, and develop distinct literacy skills in other subject areas including mathematics and science.

Implications for the student
Basic literacy and numeracy are often nominated as foundation skills for lifelong learning and are essential in developing information literacy skills. Without a basic level of literacy, motivation to learn will be significantly inhibited. However, while literacy and numeracy continue to be learnt at increasing levels of complexity, the lifelong learner needs to develop other skills which enable a broader and more sophisticated ongoing engagement with multiple sources of information. These days we are faced with multiple modes of meaning-making and we need to be able to engage with combinations of oral, print, visual and multimedia communications. The term used for these new kinds of literacies is ‘multiliteracies’ (New London Group, 1996).

An information literate person is someone who recognises when information is needed and then has the ability to locate, evaluate and use the information effectively. This information may come from books, reports, computers, films, people, conversations, posters, television shows and other visual images. What is important is that students can dissect, understand and evaluate information in a range of contexts, both in and out of school.

INFO RMA TION LITERACY
mastery of the processes of becoming informed encompasses the ability to:
• recognise the need for information;
• solve problems and develop ideas;
• pose important questions;
• use a variety of data gathering strategies;
• locate relevant and appropriate data;
• assess data for quality, authority, accuracy, authenticity and;
• acknowledge that stress and uncertainty are essential components of becoming informed.

Henri, 1999, p. 4
The various sources of information that the learner needs to be able to engage with imply a need also to be technologically literate, as noted earlier. Information technology skills are needed to use a number of information sources. However, information literacy focuses on an individual's understanding and use of information. Gaining information literacy skills enhances the opportunity for students to become self-directed, lifelong learners. The technologies are not only the tools, but also things to be learnt in their own right, and this is likely to be a lifelong task, especially given the rate at which sophisticated approaches are being developed.

**Implications for schools**

Most schools will rightly feel that they are already meeting the requirements for their pupils' acquisition and management of information. In others, radical change may be required. Concentration on just the basics may itself be a trap. There is also a possibility that 'forward thinking' schools may regress, as Longworth and Davies (1996) warn:

in times of stress and change, society retreats backwards into the old certainties, back to the basics, which themselves have changed and expanded so much that the old basics are no longer relevant or appropriate. Schools are pressured to adopt ever more rigid structures and curricula more appropriate to a full-employment, industrial, mid-20th (or even 19th) century environment, rather than to the new and urgent paradigm of change, information technology, lifelong learning and the post-industrial order. (p. 40)

A school which seeks to know (and responds to) students' needs and demand, encourages self-direction, and provides the richest possible knowledge base (or access to it), is a lifelong learning oriented school. Lifelong learning does not always exist in concrete, readily identifiable forms, such as classrooms, buildings or curriculum, nor on recognisable sites. Lifelong learning is perhaps more appropriately thought of as a long-term planning strategy rather than as a ready-made, implementable alternative or extension to the present education and training system. The key policy objectives for schools with regard to this strategy are to ensure that all individuals

- are motivated to continue learning;
- have the skills and knowledge to continue learning on a self-directed basis;
- have access to the necessary opportunities to develop, refine and hone essential skills; and
- have appropriate incentives to participate in the preliminary stages of the strategy.

As Henri (1999) points out, to help students become information literate, schools will need to help them work towards

- using the practical and conceptual tools of information technology;
- understanding form, formats, location and access methods;
- identifying how data are situated and produced;
- formatting and publishing in textual and multimedia formats; and
- adopting emerging technologies.

Concentration on just 'the basics' may be a trap.
If a school is to become an information literate community then any approach needs to be a whole school approach which is documented in school policies and actively supported by the school community. The school needs to support both teachers and students to develop their information literacy skills. School curriculum documentation, such as course outlines, need to make explicit that information literacy is a desired outcome for students. Information literacy is not an ‘add-on’ but a competency which needs to be integrated and valued in all aspects of the curriculum; information literacy skills are taught in context. The same applies to information and communication technologies. Teachers may find that the following steps will help students to develop information literacy.

**Assessment of information literacy skills**

The assessment practices which support the development of information literacy skills are those which enable students to reflect on how effectively they are using and controlling the information they use, and to pinpoint areas that students can further develop so that they can consolidate their learning. These practices are concerned with information

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**THE ‘BIG 6’ COMPONENTS OF INFORMATION LITERACY**

Tools for teaching and learning activities should be designed explicitly to assist students to develop skills in the following areas:

- **Task definition** – defining the information problem and identifying the information needed in order to complete the task (that is, to solve the information problem);
- **Information seeking strategies** – determining or brainstorming the range of possible sources and then evaluating and prioritising the different sources so that the best will be selected;
- **Location and access** – locating the sources (intellectually and physically) and then finding information within the sources; recording these discoveries;
- **Use of information** – engaging with the information (whether through reading, hearing, viewing, or touching) and then extracting the relevant information from each source; keeping a record of these extractions;
- **Synthesis** – organising the information from the multiple sources and then presenting the information either in summary or in full, depending on its importance within the task;
- **Evaluation** – judging the product (its effectiveness) and making a judgement about the information problem-solving process itself (efficiency), as a record for next time.

from Eisenberg & Johnson, 1996
accessed both in and out of school. Assessment tasks should be authentic; that is, an active assessment by the teacher, peers or the students of their skills in real-life information gathering exercises, not merely pen and paper tests on the theory of information gathering.

The types of assessment which best help students to demonstrate their understanding will be those which are able to probe more deeply into the student's understanding of both content and processes. Whether assessed by the teacher, peers or themselves, the type of assessment should enable the students to demonstrate higher order thinking skills, particularly in regard to processes, and provide feedback on the extent to which they are able to do this.

The overcrowded curriculum

It is important that schools have an institutional commitment to support teachers and students in developing the concept of themselves as lifelong learners. Course documentation, school policies, and a curriculum which is not overloaded and which enables students progressively to build on knowledge and establish connections between fields of knowledge, take time to develop and to support.

However, in practice teachers and students are often faced with a crowded and compartmentalised curriculum, particularly in relation to examination demands, and particularly at senior year levels. In these instances, teachers can still try to be explicit about the processes they used to gather information, and they can set up exercises whereby students participate in a dialogue about the process of information gathering and evaluation.

Teachers need to provide a systematic and integrated introduction to particular fields of study. It is important that students be encouraged to develop contextualised frameworks in which to develop their understanding. The opportunity for making connections may be achieved by teachers working with their colleagues to develop themes of learning across subject areas. For example, teaching about nuclear power may involve a range of subject areas including science, politics and history. Cross-curricular planning, aiming for connectedness between learning activities, encourages both a broader and deeper understanding of content where the subject areas become vehicles which enable students to develop their generic, higher order thinking skills.
As noted in the previous section, lifelong learners will have developed competence with a range of print and electronic media and are able to engage effectively with their available range of learning opportunities. They are ‘information literate’: that is, they are able to recognise the need for information; they can use available technologies with confidence; they know how to access specific and relevant information sources through these technologies; and they know how to organise all the stuff once it is obtained.

But more importantly, they are able to synthesise, analyse and (above all) evaluate this raw information. The type of knowledge base of the lifelong learner may be characterised by its breadth and depth. They will have developed a sound general knowledge, various bodies of specialised knowledge according to their interests, as well as a clear sense of the interconnectedness of fields of knowledge. Candy refers to this as a ‘breadth of vision’. They are able to make connections between learning in school and out of school and aim for a deep understanding in as many relevant fields as possible. A lifelong learner has ‘strategic foresight’ – the ability to read patterns and trends so as to be pre-emptive about the skills and information needed in an environment of constant change.

They will start by asking questions: ‘What needs to be learnt? What more could be learnt? What is the most effective and economical way of going about this learning process, and delivering the required product?’ Linked to this is the need to be able to evaluate critically the sources of their information and to be willing to reject those sources that they find insufficient or unworthy on logical, ethical or intellectual grounds.

Students who have developed the capacity to question, reason and evaluate can be typified as:

- being continually aware of change and variety;
- being aware that not all change and variety is necessarily positive in intent or outcome;
- never being satisfied with the status quo but constantly on the lookout for novelty, innovation and new ways of doing things;
- continually wanting to improve procedure and processes, and update skills as well as information; and
- being as critical of their own views as they are of the views of others.

A lifelong learning focus is not just about increasing access to information and information services, but the depth of learning which such activity promotes. Longworth (1999) contends that much current education does not go far beyond the information level. Questioning and reasoning are key inputs in making the jumps from one level to the one higher, shown by the model of ‘The Learning Ladder’ (Longworth, 1999).
Schools that develop questioning, reasoning and evaluative skills in their students will

• provide, in advance, the criteria for assessment of the outcomes of the learning; and

• model good questioning, enquiry and presentational skills by teachers themselves; and

• constantly practise the art of selection and evaluation of learning resources.

Theories and facts need to be subject to constant testing against received or novel models. A teacher who demonstrates this openness and willingness, as well as modelling, aids the acquisition. Learning theory tells us that individuals learn best when learning activities are made explicit and there is an appropriate level of support through modelling and scaffolding. Activities that simply involve the reproduction of knowledge do not allow students to develop skills in handling information, let alone achieving the wisdom it could provide. Activities which allow students to go off searching for information without having been shown how to identify the questions inherent in the information they are searching for do not allow the students to develop these foundation skills.

VALUES, DISPOSITIONS AND ATTITUDES

We have tried to define the ‘information literate’ individual and how schools can develop these characteristics in their students. We shall now attempt a similar process with the expressions ‘learning identity’ and ‘learner self-concept’.

Between the two sections, however, there should be some consideration of what the ‘information literate’ person does with the information he or she has gained in order to make full and positive use of it, enlarge the sense of ‘identity’ and heighten the ‘self-concept’.

Some key expressions, commonly encountered in the literature, are adaptability, flexibility and the ability to apply new knowledge in practice. Much use is made of these terms and ideas in describing the desired attributes of employees in modern workplaces. But they also clearly relate to the lifelong learner. They are a combination of attitudinal attributes – willingness to adapt, readiness to be flexible – as well as a more cognitive one: to be able to apply insights and knowledge gained by means of the adaptable, flexible approach and the learning this has resulted in.

Implications for the individual

Lifelong learners need to face change with confidence, indeed value change for its possible positive outcomes. They readily adapt to new situations and tasks in learning, whether in school or workplace, and become used to doing so. Further, they are ready to change personal direction, when new and interesting arenas for learning emerge from their curiosity, or when they need to keep a job, go for promotion, or seek a change in occupation or lifestyle. Lifelong learners not only cope with but thrive on change and are able to predict the kinds of skills and information needed for the new situations they encounter.
The modern citizen (not just the modern worker) needs a knowledge base with breadth, depth and connectedness. The sense of connectedness is hard to achieve: much harder than it once was. The explosion of information and knowledge, along with the recognition that students face uncertain futures, particularly with respect to employment, has led to a general recognition of the need to move away from fixed bodies of knowledge. However, effective engagement in learning beyond schooling requires a broad knowledge base which has been progressively built on throughout schooling.

The extent to which the learner is able to develop a depth of knowledge in particular areas enables them to exhibit other key characteristics of the lifelong learner, including critical thinking and what Candy et al. (1994) have called ‘helicopter vision’, where the learner is able to make connections across bodies of knowledge. The broader and deeper the knowledge base, the more room to move, change, and be flexible, and the greater the repertoire of known possibilities when such knowledge needs to be translated into new action or put into practice.

There is much that schools can do (and indeed already do) to foster those attitudes and dispositions, and the abilities that accompany them, which will equip students for variety, change and the flux of an increasingly complex world. Seeing the connection between theory and practice can be promoted by departing from the last vestiges of rote learning and standardised assessment, into explorations of many kinds. Fluid rather than linear thinking can be encouraged so that students are not constrained to work within traditional paradigms or recognised subject boundaries. The act of transferring knowledge into action, adapting knowledge from one field to another, or attempting a holistic or more integrated treatment of a particular aspect of learning can be modelled and promoted by teachers and schools more generally.

Changes can be celebrated, rather than left as threatening events.
Two skill sets deserve some separate attention. ‘Problem-solving’ has attracted a large literature, both about theory and practice by individuals. In schools, what is sometimes called ‘enquiry method’ or ‘discovery learning’ often comes to have a strong problem-solving component. The students may either respond to a given problem or initiate their own, and then go about the process of working through it, either alone or in concert with other students. In the latter case, a range of communication skills come into play. Beyond schooling, in a lifelong learning context, problem-solving is often linked to attributes such as creativity and innovation. Here the spur to the intellectual activity is much more likely to be self-initiated.

**Problem-solving skills**

The role of teachers is important in exposing, offering experience, and giving judgments about problem-solving operations. In this, as with other issues raised in this paper, modelling both the willingness to experiment and explore problems, and ways of doing so, is crucial, especially as an encouraging example to the tentative learner.

More generally, with the explosion of information in many fields, teachers may no longer be able to maintain their positions as being the ultimate authority or fount of knowledge on a particular subject: they can, however, assume the role of a lifelong learning model for students, demonstrating that they have learning skills, respect knowledge and its context and share information on how to find and utilize sources, thus conveying their ability to think critically about available information rather than remain defensive about their technical shortcomings. (Fiske, 1992)

It was mentioned above that students need to be led to seeing the connectedness between fields or bodies of knowledge. Often the problem-solving trajectory is best tackled by looking around and about the specific problem, for clues, cues or strategies which might be followed towards a solution. Experiential teaching strategies such as role plays, work experience, field trips and clinical practice can promote this type of connectedness. They encourage students to develop a framework which places their learning in a context, and enables them to establish its relevance to life beyond schools. Also important are resource-based and problem-based learning tasks and activities where teachers and students pose problems from practice to provide a stimulus for learning. Much of this problem-solving activity may be of a reactive nature, where students explore problems generated by others while guided by a teacher. But it is important that students work in a climate where they are encouraged to innovate and create, thereby generating problems that are directly relevant to them.

It is important to consider the issue of transition from ‘teacher control’ to ‘learner control’, which operates on a number of dimension as outlined in the box below. Many teachers who are used to controlling students’ learning will find it difficult to become ‘facilitators’.
Problem based learning approaches are increasingly being adopted in both graduate and professional education programs. The main aim of this approach is to integrate learning of content and the process of learning. The following questions may help to identify the extent to which secondary school students are moving towards control of their learning and developing capacity for independent problem-solving (Candy, 1991, p. 209):

• Is learning self-initiated and self-motivated?
• Who identifies goals and objectives and selects problems for study?
• Who determines the pace, the sequence and the methods of information gathering?
• What provision is there for the development of learners’ ideas and for creative solutions to problems?
• Is the emphasis on gathering information, or judgments about its appropriateness, external to the learner?
• How flexible is each instructional process with regard to the requirements of the learner?
• How, and by whom, are the usefulness and quality of learning judged?

Communication skills

The issue of communication, teamwork and co-operative learning is a rather vexed question in the context of a discussion of lifelong learning. There are those who point out that much learning, and many moments of inspiration and insight, take place when the learner is alone, and that there are many examples of deep learners who never need to, or choose not to, work closely with others. Nevertheless, schooling and most occupational training imply contact and communication. In group situations where learning is taking place it is just not economical to mount totally individualised programs – nor is it desirable given that so much learning arises from interacting with others.

Perhaps an old teacher’s saying puts it clearly: ‘no one of us knows it all, but between us we know an awful lot’. This acts as a motto for much cooperative and shared learning, where communication skills do become important. It is supported at the policy/theory level by documents such as the Mayer Key Competencies, with its argument that ‘working with others and in teams’ is an important element of an educational specification.

People undoubtedly learn. The research literature on paired communication and its powerful role in fostering second language learning can be extrapolated to many other learning situations where people ‘get stuff done together’ and...

FOUR DIMENSIONS OF ‘LEARNER CONTROL’

PACE - times and places at which a learner finds it most convenient and appropriate to learn

CHOICE - choice of what to study

METHOD - selecting modes and texts

CONTENT - choosing precisely what to learn depending on one’s personal goals and interests

Candy, 1991, p. 208

Communication skills that are needed include expressing oneself clearly, listening to others, making appropriate contributions, and being able to persuade others.
learn more powerfully than they would otherwise. In such situations, young people

• receive information and knowledge;
• share information and knowledge;
• participate in goal-setting; and
• work towards achieving common goals.

Skills of this kind include

• expressing oneself clearly orally and verbally in formal and informal situations;
• listening to others and making appropriate contributions to joint learning occasions; and
• being able to persuade others that one’s point is a reasonable one.

**Implications for students**

Although the benefits of learning through collaboration are given a lot of emphasis, it is also recognised that reserved, even withdrawn, individuals learn as well. A major challenge for schools is to achieve a balance, whereby inspiring the confidence to learn with others involves equipping the student to learn with confidence when he or she is alone. Relationships with others are deemed to be very important, and the chance is offered for new interpersonal experiences to be melded or harmonised with all of those that have been acquired previously. Out of these interactions the students develop what has been termed ‘reflective interdependence’ (Nixon et al., 1996, p. 53) through conversing with people and gradually building around them a richer and broader community which assists the development of their sensitivity and judgment.

To gain this reflective interdependence young people need to have close relationships with groups of adults and peers. The adults may take on roles as mentors; they may be family members; they are often teachers; but they could be other significant people in a young person’s life such as a librarian, an employer or a sports coach. Communication skills are both exercised and further developed in such circumstances. Even when considering an issue such as what it means to be, or develop into, an autonomous learner, some competencies imply a measure of interaction and communication.

Candy (1991) has developed a profile of an autonomous learner, which puts together over 100 competencies that studies have shown to be linked with autonomous learning. Some of the competencies which seem relevant to developing a positive learner identity at secondary school, and thereby encouraging learning later in life, involve being able to

• clarify one’s own values and establish goals consistent with these values;
• critically examine the roles and values of others, and make comment on them;
• work cooperatively with others, but also enjoy working on one’s own;
• relate appropriately and collaboratively to peers as resources and even as mentors;
• relate well to teachers as facilitators;
• ‘stick to’ a position;
• be ‘different’;
• disagree; and
• relate to others without depending on them.
Implications for schools

The role of teachers as mentors and models is central to the development of young people as lifelong learners. Teachers in learner-centred classrooms observe individuals and groups of students as they interact and learn. They can intervene, when necessary, to assist students by modelling appropriate behaviours and problem-solving strategies, asking higher order questions, and identifying additional or more appropriate resources. If students find the level of content difficult, these teachers find ways of relating the new material to students’ present knowledge (Wang et al., 1998). One way of achieving the kind of learning climate that has been outlined is to consider the classroom as a community of learning.

Classrooms that function as learning communities have the following characteristics (Nuthall, 1999):

• transparent goals that relate to students’ interests and motivations;
• a spirit of inquiry that draws on the cultural and social contexts which students experience;
• activities that take both social and cognitive process into account;
• tasks that enhance relationships between students; and
• tasks that involve a wide range of different kinds of activities.

Splitter and Sharp (1995) describe setting up a ‘community of inquiry’ in classrooms to teach a wide range of thinking skills in such terms as

• working cooperatively;
• having a sense of common purpose;
• having mutual trust, respect and care;
• building and growing together; and
• feeling that the classroom is a ‘safe’ place to take risks.

In such a community, the teacher’s role is described as ‘strong’, but the teacher is seen as a guide, manager, director, model, provoker (devil’s advocate) and questioner. This suggests that the experience is far from a ‘free-for-all’; the teacher helps students achieve goals that have been set in a collaborative fashion, and interpersonal communication is constant.

Researchers such as Aspin and Chapman (2000) recommend that schools and teachers explicitly recognise, value and encourage learning which takes place outside the school. Schools should actively attempt to break down barriers between themselves and the community, and to pursue partnerships with community groups, other learning institutions, the business community cultural and artistic institutions and students’ families.

An increasing number of schools are integrating school, work and training. This combination of experiences is proving to be of great value to many students and is able to enhance their understanding of particular areas and give meaning and context to their academic learning. Examples of this type of community and cross-school collaboration are increasingly seen in school clusters organised to develop vocational education and training in programs that include structured workplace learning components. Within these clusters, schools, employers, community members and training providers work in collaboration to design and provide learning experiences for students that
combine academic and applied learning within the context of a learning pathway which is relevant to and valued by the students and their local communities (Malley et al., 1999). The importance of organisational reforms to help students have more effective combinations of work and learning cannot be underestimated. Organisational changes that are now under way in secondary schools include ‘block’ timetabling to facilitate workplace experience, school-based enterprises, longer opening hours, part-time enrolments, shared programs with TAFE and other providers, and re-entry to schooling.

ONE’S SELF AND ONE’S LEARNING

Research tells us that learning which occurs later in adult lives is closely associated with individual motivation, opportunity, and the individual’s learner identity, their perception of themselves as a learner. So it is with students. The importance of ‘learner identity’ appears in many contexts in this paper.

People with what is sometimes called a ‘positive learner identity’ are aware of the need for and value of learning, and are able to see the relationship between learning opportunities and their ‘real life’. They then go on to take responsibility for their learning and display a high degree of confidence in their ability to manage their learning, or at least a sense that they know how to go about the task.

Developing a strong learner self-concept

The development of a positive self-concept or high self-esteem in students is an important educational goal in itself. A positive self-concept can enhance students’ motivation, persistence and attitude towards learning, and their achievement. The relationship between self-concept and achievement is a reciprocal one; experience of academic success enhances self-concept. However, there is an assumption that we all know what we mean when we talk about ‘enhancing self-concept’ and that teachers have an implicit understanding of how to do this.

Terms such as self-esteem and self-concept are widely and often interchangeably used. Strictly speaking, ‘self-concept’ is descriptive whereas ‘self-esteem’ is evaluative. While popular use of the former term usually refers to a general self-concept, researchers such as Marsh and Craven (1997) stress that self-concept is multidimensional. Individuals have distinct self-concepts for their ‘academic self’ and their ‘non-academic self’. And there are further levels to which these can be broken down: academic self-concept is made up of a person’s verbal self-concept, mathematical self-concept (which can be quite unrelated to verbal) and a general school self-concept. As students grow older they increasingly differentiate self-concepts for different subject areas, thus they may feel more positive about themselves in some areas than others.

Aspects of self-concept are formed through social interaction and social comparison. It is more difficult to develop a positive self-concept in a highly competitive environment where the main point of reference for students is to rank themselves against the achievement of other students. Research
suggests that while a competitive environment may increase the average achievement of a class, it does not enhance the average self-concept of a class in relation to any particular subject. In this type of environment, there are few winners and lots of losers. However, a cooperative learning environment can enhance both achievement and self-concepts in relation to a subject area.

While social comparison by individuals in any environment is inevitable and part of human nature, schools can attempt to reduce the negative effects of an overemphasis on social comparison by providing assessments and feedback to students which are based on externally set criteria. Individual feedback should focus on the students’ own personal improvement. To be credible, feedback should be used specifically and contingent upon performance. It is important to emphasise and value the accomplishments of each student. Students should also be encouraged to pursue their own individual projects of interest to them as opposed to standardised tests which rank them.

If the aim is to encourage a positive academic self-concept, then feedback should be related to a student’s learning, rather than random praise or a general ‘feel good’ reinforcement. Importantly, in the long term, students need to be encouraged to internalise this reinforcement, to learn to be able to assess their own learning so that they are able to engage in self-reinforcement.

Assessment and self-concept

One sure way of turning off people’s interest in learning is setting up a situation where they see themselves as failures. Assessment procedures such as examinations which sort and classify students are likely to do this, particularly for those who are not high achievers in such contexts. Students tend to perform according to the expectations of others. If a teacher has low expectations of a student’s performance, the student is unlikely to perform well. This happens when students are ‘sorted’ and labelled as ‘low achievers’.

Strategies that are less threatening and more inclusive are forms of self-assessment, discussion portfolios, personal reflection and learning diaries. This kind of formative assessment is generally more useful to the learner, particularly when it puts students in touch with themselves by indicating their strengths and weaknesses, and allows them to develop free from the fear of failure. (NBEET 1996)
Being a skilled learner is not something that comes naturally to most students. They need to be explicitly taught how to use a range of learning strategies which will enable them to achieve their learning goals, including basic cognitive strategies which assist them to remember information (repetition, paraphrasing, summarising information), metacognitive strategies (planning, monitoring, evaluating learning) and other study skills such as time management.

In the preceding parts of this paper we have canvassed a wide range of issues and strategies that concern schools and the young people they teach. Many are relevant to this section as well, in particular the following, where learners

- cherish the habit of learning;
- know their own learning styles;
- are open to new learning techniques and new knowledge;
- want to learn with self-confidence;
- set realistic personal targets for their learning; and
- recognise the gap between the current status of their learning and the target, and understand how to fill it.

In these ways, they become what are sometimes called ‘deep learners’.

**Skilled learners**

- take responsibility for their learning and generally adopt an active role;
- distinguish between things they have to memorise, things they need to understand, and things that are best learnt by doing;
- do not fall back on trying to memorise things they should be trying to understand;
- consider different ways of learning, and choose between them according to the material to be learnt;
- make conscious decisions on how they will learn something;
- realise that difficulties in learning are not always a lack in their own capacity to learn, but frequently lie in inadequacies in the delivery of their learning or training;
- make sure that they learn whatever their perceptions of the quality of the teaching they are given;
- ask more questions, and ask particular kinds of questions, to ensure that they learn properly;
- seek feedback on their own performance, both immediate and long-term; and
- are confident to take on new learning opportunities.

As an introduction to this section, consider the material in the following list:
Encouraging deep learning

One way people become ‘deep learners’ is by modelling. This is seen as particularly important at the primary and secondary school level where young people are learning how to learn. Students will learn from the model of what the teacher does, or what they believe the teacher expects of them. If it is accepted that mistakes can be made and if the classroom is a ‘warm’ one that encourages student interaction, students are more likely to feel free to explore issues and relate them to their own frameworks for behaviour or action, rather than to some extrinsically set framework. It is very difficult to encourage deep learning when the main interaction between the students and teacher is limited to students responding ‘yes’ or ‘no’ to closed questions posed by the teacher (Biggs, 1987, p. 25).

Learning is essentially active. To undertake ‘deep’ learning students need to construct their own knowledge. Piaget demonstrated that children learn powerfully from first-hand experience – discovering things for themselves. Each individual needs to explore and to relate what is found to their accumulated experience. Associated with this is problem-solving – building one’s own new knowledge through inquisitiveness. It is therefore unlikely that students will learn in a ‘deep’ way on demand (as is necessary when covering a syllabus for a competitive test) because enquiring and searching for meaning will involve a somewhat different route for each student. Each individual structures his or her own knowledge into a unique pattern, making connections in a subjective and often highly idiosyncratic way (Wilson & Daviss, 1994).

There are various theories about why students make an effort to achieve particular goals. Some students perceive school tasks as opportunities to learn, and look to the learning situation to build up their competence and confidence, whereas others see the tasks as opportunities to demonstrate their ability – these students are likely to have a defensive approach in order to protect their egos. Research has shown that this latter group of students is less likely to engage in tasks at a deep level.

Developing metacognitive skills

If we consider ‘learning to learn’ in terms of encouraging the development of cross-curricular competencies, then the kinds of competencies stressed will be interpersonal and communication skills, those with a ‘problem solving’ orientation. But the autonomy – the idiosyncrasies – of the learner need to be respected as well.

It is thought that students learn best if they are reflective learners. This view stems from the ancient Greek belief that it is important to ‘know thyself’. These days the term ‘metacognition’ is used. This includes thinking about how you learn and monitoring the learning: deciding on goals and working out strategies to achieve them, deciding what further knowledge and resources are needed, evaluating and asking ‘Am I going in the right direction?’

One useful way to sum up how young people learn how to learn might be to look at the process in terms of four stages of growth from dependence to interdependence. A person’s view of knowledge changes from one where knowledge is certain to one where it becomes increasingly uncertain. The view
One of one’s teachers changes from one where the teacher is seen as someone with ‘all the right answers’ to one where their expertise may be merely in one particular field, and maybe in possession of only a small percentage of the knowledge one needs from that field. A ‘learner’ changes from being a person who must ‘memorise facts and accept authority’ to one who ‘evaluates and seeks the most adequate response’. This is an organic process that cannot be rushed. There is a sense that learning is always in a state of growth. It is also important to remember that learning is instinctive to all human beings. Everyone can learn – and learn how to learn – providing that they have the motivation, confidence and a good example to follow. (Ball, 1991, cited in Candy et al., 1994, p. 48)

In summary, learning how to learn involves

- knowing one’s own strengths and weaknesses and preferred learning style;
- having a broad and deep range of operating strategies for learning, in whatever context one finds oneself (with a teacher, another learner, or by oneself); and
- having developed an understanding of the differences between surface and deep level learning, and the power to judge, evaluate and use the results of that learning.

One project that has recently looked at ways of strengthening students’ learner self-concepts is the Advocacy Project, which involved three Victorian secondary schools. Teachers were given a four-period-per-week time allowance to enable them to develop supportive mentoring relationships with fifteen students. The project showed significantly lowered school leaving rates, improved attendance rates and increased rates of achievement. Some of the processes used are outlined below.

**LEARNING MENTORS: THE ADVOCACY PROJECT**

**Processes**

- The teacher builds a personal relationship with the student, helping them with personal, social and family issues.
- They also help with study timetables, work requirement deadlines and learning plans.
- Students are helped to learn more about themselves as learners.
- Students are helped with short- and long-term goal setting, study timetables, time management skills, ‘chunking’ – breaking a large sequence of work into more manageable pieces.

**Qualities required by teachers who were advocates include skills in**

- counselling
- problem solving
- teaching by example
- listening and interviewing

Teachers also needed to demonstrate flexibility, concern for equality and non-judgmental attitudes.

(Ocean and Caulley, 1999)
Helping young people construct their own knowledge

As suggested above, people are more likely to be motivated to learn in a ‘deep’ way if they can construct their own knowledge, and this in turn is more likely to happen if a teacher is a facilitator and mentor rather than an authoritarian dispenser of knowledge. This idea of teachers being facilitators is by no means new, but when they are (or when they feel) obliged to ‘get through’ a set curriculum - as is often the case in senior classes - it is sometimes difficult to fully take up that role.

Even in senior classes, perceived to be syllabus-dominated, teachers can encourage students to manage their own learning by

- establishing and developing students’ own personal goals;
- establishing their own priorities;
- exploring their own personal processes.

One aspect of developing control involves developing self-organisational skills. Establishing goals plays an important role in controlling and organising one’s learning. These goals may be to do with getting a task done (such as time management) or they may be more generally to do with development of a sense of personal agency (concerning, for example, educational hurdles and relationships with others). The extent to which a person develops realistic positive goals and plans to attain them will depend upon their belief that they are likely to attain these goals, and this likelihood of being successful, linking to their sense of agency, or positive self-concept, discussed above. The implication here is that rather than having complete freedom - to set any goals, to come up with any decisions - students need to be guided towards managing and making informed choices about their learning.

Research suggests that some people are ‘naturally’ good at organising themselves, but schools can assist their students to set up strategies for their own organisation, such as the keeping of work diaries. In a study investigating the role of cross-curricular competencies in the Arts, one secondary school music teacher included planning and using a work diary as an integral part of the music program. This helped students to fit practice time into their schedules and also stressed the importance of punctuality and preparedness for music rehearsals (Bryce et al., 1996, p. 61).

Providing an engaging context for learning

Context has a very significant influence on learning. Here we need to go back to a point made at the very start of this paper. The context provided by a school is very important, and even in secondary schools the notion of ‘play’ can be harnessed to make important learning discoveries and leaven a context which all too often at the moment is dominated by the seriousness of externally ordained curricular course work. Some students can engage comfortably with the context provided by their school where they are active and constructive learners, challenging, questioning, talking with teachers and involved in school activities, whereas those with a lack of engagement will tend to be destructive or passive, with a mistrust of school and teachers, casual
misuse of the environment and indifference to their own identities as learners. How often do we come across a student who is disaffected by the school environment, but who can learn very well in another environment – for example, when on work experience?

Vocational education and training (VET) experience provides one way of making learning more relevant for students, especially those who are motivated by a workplace context, or by relating their learning to the ‘outside’ world of work. In some cases it has been found that workplace-based contexts may lead people to participate in other learning activities that are not work-related (Candy, 1991). We might repeat a comment made earlier about the importance of organisational patterns which facilitate re-entry to schooling and allow combinations of work and learning opportunities to suit individuals.

Other students will want to relate their knowledge to the ‘outside’ world, but it may not be the world of VET, or of work. It is particularly important for a school to have a close connection with the local community, forming what has been described as ‘a seamless web’ of connections. Much of the learning at school can be grounded in local circumstances, concerns and interests. It must not be forgotten that students themselves are sources of knowledge. Recognition of prior learning often occurs in a formal way at upper secondary and tertiary levels, but this can also happen informally in more junior classrooms where the ‘prior learning’ may be experiences that have taken place outside school.

The school itself becomes an engaging place for students if the attitudes of all its members are caring and respectful of each other. Most communities require rules of some kind and even where students are constructing their own learning, this needs to be guided by a curriculum. Students need to be actively involved in issues that concern them – such as the development of the curriculum and rules and policies – and there should be clashes and struggles. This reinforces the notion, within learning, that many seeming truths and facts do not go uncontested, and that sides are taken in academic argument as well as the ‘real’ world of society and politics.

Implications for schools

Schools have an important role to play in providing this safe, but engaging, environment in which young people can test their ideas and develop a perception of how they fit into the world. A part of this requires respect, both from peers and from teachers, and a part involves each individual having the opportunity of providing a contribution to the learning environment, and feeling that their contribution is valued by teachers and peers. It can be very difficult to have ‘high expectations’ and to value contributions from students who are constantly disruptive, but if teachers can have high expectations for all students, there is more likely to be general engagement in learning and development of a community that is supportive of all its members.

Self-organisation is an important part of learning how to learn. To enhance their self-organisational skills students can be encouraged to

• exercise self-discipline;
• develop individual plans for achieving goals;
• plan learning an appropriate time in advance;
• make effective use of time;
• establish priorities;
• maintain detailed and accurate records of learning;
• recognise when help is needed;
• diagnose learning needs with help from teachers and peers;
• stick to plans – modifying as necessary; and
• be self regulating and systematic.

Candy (1991)

Lifelong learners have a number of learning skills which enable them to identify what it is they need to do to successfully engage in a learning task and to transfer what they have learnt to other situations. These types of skills include learning to learn skills, higher order thinking, organisational skills and metacognition. When the learner is using these skills, learning becomes a systematic process over which they have control. These skills have been outlined by Weinstein and Hume (1998) as

• knowledge about learning strategies for both deep and surface learning – the learner knows about a range of strategies to enhance their knowledge

PROJECT FOR ENHANCING EFFECTIVE LEARNING (PEEL)

Year 9 students from a low socio-economic area were engaged in a project to enhance their learning. Students were encouraged to take control of their learning and to reflect and question. After the project many students had a ‘deeper’ approach to learning.

Students’ views of learning before participating in PEEL: ‘reading about things’ and ‘remembering’.

Students’ views of learning after participating in PEEL: ‘thinking about what I am doing’ and ‘relating different parts of the topic together’.

Assumption:
People are more likely to ‘put effort’ into a task if they can see the point of it.

Some activities:
• students were encouraged to develop their own questions around a topic (rather than questions mainly coming from the teacher);
• questions developed were classified as ‘fact’ and ‘thinking’ (e.g. questions that begin with ‘what if’ are ‘thinking’);
• historical topics were related to present-day situations (e.g. parallels were drawn between Norse sagas and television soap operas).

acquisition, to integrate what they have learnt with other knowledge and to transfer this learning to other situations;

• self-knowledge – their likes, abilities, ways they like to learn and their own learning strategies and styles;

• task knowledge – about the nature of academic tasks and what is required;

• content knowledge – so that they can build on existing knowledge, using the connections which best help them build meaning;

• context knowledge – context is about social setting, about learning constraints and supports, and expectations by teachers and peers.

It is stressed, however, that this kind of approach to learning cannot simply be transplanted, but has to be ‘grown through’. Teachers who have considered themselves primarily as subject experts cannot be expected to change overnight to being facilitators and mentors. Indeed, it has been found that a learning environment that encourages self-direction and learning to learn can be self-defeating if it is not handled sensitively. Teachers do need to be willing to help students and to be accessible. Teachers need to be aware of their own strengths and weaknesses (not just their students’). This requires a great deal of commitment from teachers and a considerable period of transition (Candy et al., 1994, p. 275).
In this paper we have stressed that taking up a lifelong learning approach in a school needs to involve long-term planning. An orientation towards lifelong learning cannot readily be 'transplanted' for a number of reasons. The most important of these is that teachers in a school need to be lifelong learners themselves and to have a lifelong orientation as a basis for their own models of what it means to be a teacher. Also, young people come to school with particular expectations, largely gained from their families. Many young people have already developed a negative concept of themselves as learners and a picture of schools as dispensers of an obscure body of knowledge which is remote from their immediate needs. The challenge is to find ways of gradually altering these perceptions. For most schools the kind of approach suggested will not require substantial increases in material resources but will require a process of reorientation, particularly in relation to the notion of what it means to be a teacher and what it means to be a learner.

How can schools assess their progress towards lifelong learning?

Lifelong learning is a boundless concept and one towards which a person or an organisation needs to continually strive. We do not wish to suggest therefore that it consists of discrete variables that can be 'ticked off' on a check list, but the points in the following boxes may provide a useful set of indicators against which a school can assess its progress towards becoming a community that produces lifelong learners.

A meeting of a school community, to discuss the school's status in regard to being a 'lifelong learning' centre, might find the following useful to structure reflection and discussion.
AT OUR SCHOOL

- our mission statement notes our commitment towards lifelong learning;
- course documentation makes explicit the aim of developing lifelong learning characteristics in students;
- the curriculum is developed in terms of what is core/essential knowledge (in light of the ‘knowledge explosion’ and rapidity with which knowledge becomes outdated);
- the curriculum is structured so that knowledge is built on progressively;
- the curriculum is structured so that it is easy to make connections from one field of study to another;
- the curriculum recognises the importance of information literacy skills in all learning areas;
- assessment policies recognise student learning which takes place out of school;
- the assessment policy identifies the ‘learning to learn’ competencies and information literacy competencies expected of students at key points during their schooling;
- the assessment policy makes explicit the importance of formative assessment processes;
- continued development of its information services is supported;
- teachers are supported and encouraged to be lifelong learners, including through professional development and further study;
- there are established partnerships with local community groups which are drawn on to support student learning;
- we survey ex-students to find out what they are doing, and use that information to modify our school program.
The points in the next two boxes could be used as a focus for professional development activities, after some basic decisions are made based on the box above.

**TEACHERS AT OUR SCHOOL**

- are themselves lifelong learners;
- see themselves as facilitators, mentors and ‘models’ rather than ‘dispensers of knowledge’;
- encourage young people to explore a wide range of rich sources of information;
- build on young people’s questions and ideas;
- encourage young people to explore various ways of handling information and extracting relevant information from sources;
- have high expectations of all students;
- encourage reflection and higher order thinking rather than rote learning;
- report on student achievement in ways which focus on how students are maturing learners;
- have opportunities and are encouraged to develop their own information literacy skills;
- provide varied learning contexts and involve students in meaningful use of a wide range of information resources;
- develop learning themes in collaboration with each other, with specialist teachers, librarians, and with input from students and local community groups;
- use teaching strategies which support young people to take control of their own learning and provide regular feedback to students on their attempts to do this;
- encourage student collaboration in many aspects of their learning;
- engage in professional development activities which enhance their understanding of the learning process;
- are as interested in drafts and other working documents as they are in the final piece of work.
Students themselves, as part of their self-evaluation training or activities, may also find the points in this box a useful checklist.

**STUDENTS AT OUR SCHOOL**

- work in an environment where they feel safe to discuss and question;
- are encouraged to make use of the community outside school as a source of knowledge;
- explore various ways of communicating their knowledge and understanding;
- are encouraged to examine their own learning processes – to become familiar with the processes and approaches that suit them;
- use aids to self organisation – such as keeping a work diary;
- reflect on the modes of learning that best suit them;
- evaluate the extent to which they achieve their goals;
- set their own achievable goals and are able to formulate questions/problems related to these goals;
- work collaboratively and are encouraged to draw on their particular cultural or specialist knowledge and experiences;
- recognise that their teachers are learning as well as teaching;
- maintain logs or other records of their learning – the successes and challenges – and are involved in self-assessment;
- understand that the process of learning from information – of constructing knowledge – is always paramount.
Three features of lifelong learning are considered to distinguish it from earlier concepts such as recurrent education (OECD, 1998):

- the centrality of the learner and learner needs, reflected in an orientation towards the demand side of education and training;
- an emphasis on self-directed learning, and the associated requirement of ‘learning to learn’ as an essential foundation for learning that continues throughout life; and
- a long-term view that encompasses the life cycle.

The following diagram is adapted from Longworth (1999). It is intended to provide a summary of the major points presented in this paper.
REFERENCES


**WEBSITES**

**Centre for Lifelong Learning and Development**

The Centre is located at Flinders University and aims to motivate and inspire individuals to experience the value of lifelong learning. It is involved in a range of research and development projects, holds seminars, and distributes information and publications about lifelong learning and working in partnership with the education, business, government and community sectors.


**Vocational Education Community Online**

This website houses a collection of Internet based projects, activities and resources, building online communities for those involved in VET in Schools programs in Australia, especially structured workplace learning program coordinators. Initiated by the Australian Student Traineeship Foundation (ASTF) in 1997, VECO is run in partnership with Aussie SchoolHouse.


**The Australian Student Traineeship Foundation**

The ASTF is an independent body established by the Federal Government to develop and support school industry and community partnerships, which provide structured workplace learning opportunities for senior secondary students.

LifeLong Learning Network: University of Canberra

Established in December 1998, the LifeLong Learning Network promotes policy research on post-compulsory education and training.
http://lllnetwork.canberra.edu.au

The Educational Network of Australia

EdNA Online is a vast resource contributed to and used by the education community. It houses and links to thousands of educational resources in Australia and overseas, fosters collaboration and communication among the education sectors and plays an essential role in progressing IT in education and training in Australia.
www.edna.edu.au/EdNA

PEEL Project

This project began as a two-year collaborative action research project at Laverton Secondary College in 1985, involving a group of teachers and two academics from Monash University and Melbourne University. The project set out to address concerns the teachers already had about passive learning, and aimed to promote more purposeful and active learning. The project has continued to develop since then – there are over thirty schools in Victoria that have active PEEL groups.
www.education.monash.edu.au/projects/peel/

BELL Program: Being an Effective Lifelong Learner:

The University of Sydney has an online resource designed to support students to develop study and work skills in areas such as computer use, research, writing and speaking, organising projects and understanding statistics. The website includes links to online resources on subjects including research methods and teamwork.
www.bell.uts.edu.au

Harvard’s Active Learning Project

‘Active Learning Practices’ for Schools – includes information on teaching tools, activities and research regarding active learning processes; and ‘Education with New Technologies’ – is designed to help educators develop, enact, and access effective ways of using new technologies.
http://learnweb.harvard.edu

The Big 6 website

Provides educators with resources and teaching ideas to support the development of each of these aspects of information literacy.
Teaching information skills: professional development package: A CD-ROM developed by the Australian School Libraries Association which invites the user to explore, discuss and learn about implementing the information process, collaborative planning and teaching, resource based teaching and learning, and assigning levels of information skills development. Case studies from schools around Australia are included.
www.big6.com/overview.htm

Learning Mentors

The UK Department for Education and Employment will appoint about 800 learning mentors in inner city schools in England to support secondary age students who are at risk of underachieving. This plan is explored on the informal education website at www.infed.org/learningmentors/Im-ment.htm

Page 37
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This era of lifelong learning is a time when knowledge is increasing and changing rapidly in every sphere of life so that today's young people need to be flexible and adaptable to meet the frequently changing challenges they will face in their lives after school. This paper considers the implications the era has for schools, and how a lifelong learning orientation may transform what schools currently do. Focusing on both the implications for individuals and the implications for schools, the paper addresses issues such as: the need for information literacy; the need to develop a questioning, reasoning and evaluating approach to learning; appropriate generic competencies; and the importance of identity and learning how to learn. It is suggested that becoming a lifelong learning school is a process of gradual reorientation. Material provided may help school communities consider the extent to which this reorientation is occurring for them.