Steiner Education Australia

AUSTRALIAN STEINER CURRICULUM FRAMEWORK 2011

Volume 1
Educational Foundations of Steiner Education
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AUSTRALIAN STEINER CURRICULUM FRAMEWORK 2011

Part A

STEINER EDUCATIONAL FOUNDATIONS
AND ACADEMIC ALIGNMENT WITH:

1) The Melbourne Declaration on Educational Goals for Young Australians (Ministerial Council on education, employment, training and youth affairs, December 2008)

2) The Shape of the Australian Curriculum Version 2 (ACARA, December 2010)
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1. Purpose

Introduction to the goals and structure of this paper

This paper responds to the ACARA publications relating to the Australian national curriculum with special focus on *The Shape of the Australian Curriculum Version 2.0* (December 2010).

The underlying intention of the paper is to clearly identify the strong agreement between the leading goals, principles and guidelines of the Australian national curriculum and those of the Steiner curriculum.

By aligning itself with *The Shape of the Australian Curriculum v2.0* this paper provides the Steiner educational background to support the submission and proposed implementation of the Steiner version of the Foundation to Year 10 Australian Curriculum for English, Mathematics, Science and History. It also provides the context for the next stage of development of the Foundation to Year 12 curriculum and will promote ongoing discussion in the Steiner education community about the shape of both the Australian Curriculum and the Steiner Australian Curriculum Framework as a whole — what is desired and how this differs from current practice in states and territories (*The Shape of the Australian Curriculum v2.0*, Dec 2010, p.3, para1).

The paper supplies information on many different levels, from brief outlines and dot point summaries to longer and more detailed texts. Several attachments and a book of readings are included to facilitate this strategy and to offer further layers of detail and grounding for the educational perspectives and the academic alignments.

The more detailed texts include the following attachments:

1. SURVEY OF GRADUATE OUTCOMES
2. STEINER EPISTEMOLOGICAL AND PEDAGOGICAL PERSPECTIVES
   (included in Book of Readings)
3. DISCUSSION PAPER: STEINER APPROACH TO CHILD DEVELOPMENT
   a. Overview of the Steiner approach to childhood development
   b. Kindergarten / Foundation position paper
   c. Primary school position paper
   d. High school position paper
4. DISCUSSION PAPER: STEINER APPROACH TO ICT INTEGRATION
5. A BOOK OF READINGS

The paper and the associated documents outline the many areas where Steiner education fully endorses the goals, principles and guidelines of the Australian national curriculum and also highlights the one main point of difference which arises from a Steiner perspective in the carrying out of the Australian national curriculum in its currently proposed form. The key area of divergence relates in particular to the Steiner principle of *age appropriate learning* and to the *staging of the curriculum*.

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1 Statements selected from *The Shape of the Australian Curriculum v2.0* (December, 2010) have been transcribed and adapted with the double intention firstly, of endorsing the national guidelines wherever possible by leaving the statements in their original form (or where this is not relevant the original words have been deleted); and secondly, of clarifying associated Steiner perspectives where appropriate, in which case the added words, phrases and sentences have been italicised.
2. Preamble

Determining the form and purpose of the Australian Steiner curriculum

At a national meeting on 22nd August 2009, the delegates of the RSSA (now SEA for Steiner Education Australia) passed a motion supporting the tabling of a Steiner curriculum framework to be submitted to the ACARA Board for examination, evaluation and acceptance as a viable alternative to the Australian national curriculum. The delegates who represent forty member schools from around Australia voiced their wish for the writers to strive towards the expression of the ‘ideal curriculum’. The Steiner curriculum therefore serves the double purpose of firstly, obtaining recognition for the Steiner curriculum from the ACARA Board, and secondly, of focusing and facilitating curriculum research that enables Steiner teachers to share descriptions of curriculum content, achievement standards and assessment programs in a way the encapsulates a model Steiner curriculum into a working format. It is hoped that the one document will streamline national curriculum requirements with the core educational perspectives that inform Steiner education. Other objectives that the Steiner curriculum should fulfil include: support for new teachers, reflection for more experienced teachers, inspiration and insight for parents, clarity for the wider education community and a great opportunity for growth and development for Steiner education in Australia.

A draft process for the forming of the Australian Steiner curriculum framework (ASCF) was presented by the Executive of the SEA and accepted by the membership. It was decided that the project would be staged over 2009 and 2010 and a Project Manager, a research consultant, researchers, advisers and writers were appointed. The Executive of SEA and the ASCF team are committed to open consultation with the Steiner education profession in Australia and internationally in the development of the Steiner curriculum. This paper, Australian Steiner Curriculum Framework: Educational foundations and academic alignment, and the various supporting papers and documents, in draft form, have been widely circulated amongst member schools and further discussed at SEA meetings of the Executive and delegates. An extensive circle of advisers including international and Australian academic researchers have provided further input; the researchers have liaised with Steiner educators in Norway in relation to their submission of a Steiner national curriculum to Norwegian government authorities. The paper and associated documents provides a broad outline of the way in which Steiner educational goals and principles dialogue with those of the Australian national curriculum and identifies key points of convergence and divergence in relation to the staging of the curriculum.

In April 2009 work commenced on the writing of the Steiner subject curriculum papers for English, mathematics, the sciences and history. For each learning area the ASCF Project Manager recruited a team of writers that included members of the research team for continuity with the brief of writing the subject curriculum papers along the guidelines formed during the first writing stage (December 2009 – March 2010). Two additional writers were given the brief of focusing on the area of ICT in particular and of drawing up guidelines for the inclusion of ICT perspectives across curriculum areas.

The second stage of the ASCF extended from April to December 2010. During this period the curriculum writing team submitted drafts and templates to SEA member schools for comments and feedback. At this point ASCF timelines were adjusted as feedback from ACARA was prioritised to ensure optimum alignment before launching into the final stage of writing and editing the submission. In the current stage, January to June 2011, curriculum writers have been focused on editing and completing the curriculum documents to include templates and responses that are aligned with most recent ACARA publications, drawing up scope and sequence tables as well as tables identifying divergences and convergences and finalising the Attachment papers.
Executive Summary

A global orientation and respect for multiculturalism, indigenous inclusion and Asian literacy
Steiner education in Australia is part of a widely diverse and strongly active international movement that has an implicit global orientation. Respect for multiculturalism and differing linguistic, religious and racial groupings is embedded in the educational perspectives. In Australia curriculum content includes Indigenous and Asian material as aspects of cultural inclusion that are particularly relevant in our context.

Foundational support for socio-emotional learning
Holistic perspectives shape the physiological and psychological foundations of Steiner education. Cognitive, socio-emotional and physical aspects of childhood growth are seen to be aligned with three main stages of development. A significant principle informing curriculum development therefore attends to the importance of age-appropriate learning whereby certain optimal points for the introduction of subject content and learning activities are identified.

Encouragement of confidence and creativity
As creativity is recognised to be a core characteristic of Steiner education, teaching methods are arts-based and artistic activities are assimilated into all lessons. Curriculum planning weaves together interdisciplinary strands, integrated subject themes, and multi-modal teaching strategies. The careful and rhythmic balancing of the components of lessons, students’ abilities and timetable structure forms another guiding principle. Teaching, however, is understood to be both an art and a science: the phenomenological methodology incorporates training in aesthetic awareness with traditional empirical-scientific methods of learning.

Deep knowledge strategies and the effective learning of literacy and numeracy skills
The ‘Main Lesson’, a key feature of the Steiner approach, is an intensive block lesson that takes up the first timetable slot each day and lasts for 3 to 4 weeks. It facilitates the integration of a wide range of activities (movement, music, speech, story, art, practical experiences) with formal academic work around a central theme taken from a Key Learning Area. Content and skills are reinforced in ‘Practice Lessons’ later in the day. The sustained nature of the lesson and the daily rhythmic repetition (including ‘morning circle’ time in younger classes) and practical application of learning assists the development of literacy and numeracy skills and offers ongoing deep learning opportunities.

A values rich curriculum oriented towards moral growth, social consciousness and citizenship
The curriculum is values rich and oriented towards the development of moral growth and social consciousness. An attitude of reverence, tolerance and respect is encouraged as a basis for individual morality and ethics; an atmosphere of social harmony, inclusivity and co-operation is consciously cultivated. Daily learning experiences include ongoing interactive group activities and opportunities for teamwork and collaboration. Conflict resolution skills are built into the curriculum and include training (e.g. restorative practices). Sustainability and lifelong learning are highly valued and enacted in the lifestyle of the community.

The above outline reflects the strong alignment between the Australian national curriculum and the Steiner curriculum in relation to globalisation, multiculturalism, indigenous inclusion and Asian literacy, and the emphasis which is placed on moral values and active citizenship, deep knowledge strategies and the effective learning of literacy and numeracy skills.

As the educational philosophy and teaching methodology of Steiner pedagogy are closely intertwined the Steiner curriculum strives to maintain the authenticity of the educational approach and hopes to resolve the main point of difference with the Australian national curriculum which relates to the staging of the curriculum. Like other educators, Steiner teachers value their freedom to respond to the learning needs of their students in a way that draws on their deep knowledge, creativity and professional judgment and ongoing personal and professional development.
3. Australian Steiner Curriculum Framework

3.1 Introduction to the Steiner Educational Approach

A global education

Steiner education is an integrated and holistic education, designed to provide for the balanced development of human intellectual and cognitive faculties, artistic and imaginative capacities and practical life skills. Originally developed in Germany in the early 20th century by Rudolf Steiner (1861 – 1925), there are now some 1000 autonomous, non-systemic and non-denominational schools and around 1600 kindergartens in the world today. Steiner curriculum frameworks have been developed in many different local, national and international environments. Despite these widely differing contexts the underlying holistic and spiritual perspectives of the pedagogy ensure the maintenance of a core unifying element in the various curricula. Steiner school teachers, educators and curriculum researchers have developed the touchstone features of the Steiner curriculum in a way that facilitates its adaptation across different cultural, linguistic and racial groupings in every continent, in as many as sixty nations as diverse as China, India, Japan, Thailand, Indonesia, the Philippines, New Zealand, and in many countries in South America and Africa, the USA, United Kingdom, and the European Union (Rawson, 2010; http://www.waldorfschule.de).

Across the world Steiner schools (also known internationally as Waldorf schools) comply with the requirements of the relevant government and education authorities of the country in which they are located. In most countries, Steiner schools are independent, but in some countries they are part of the State system and are fully funded, as in Sweden, New Zealand and Holland. In the United States, there are a number of public-funded ‗charter’ schools which have adopted Steiner educational principles and practice. The first fully funded Steiner school in the United Kingdom opened in 2007 (RSSA, 2008).

The contribution of Steiner education is recognised by national and international bodies. The United Nations Educational, Scientific and Cultural Organisation (UNESCO) acknowledge Steiner education’s strong humanitarian and non-discriminatory approach, which crosses racial and cultural divides. The involvement of Steiner schools in UNESCO’s Associated Project network was acclaimed for their contribution to educational projects in challenging social environments (UNESCO Executive Board, 18 April 2001). A further strong manifestation of the global nature of Steiner education is reflected in the wide support that the worldwide Steiner teacher conference held every four years in Switzerland attracts: in 2008 there were 1,100 delegates from over 66 countries (RSSA, 2008).

Holistic education

A visitor to almost any Steiner school around the world will notice some of the distinguishing qualities of the educational approach: the landscaped and ecologically sustainable gardens and buildings with organic architectural features; the natural fibres and handmade toys in the Kindergartens; the rich cultural and aesthetic nature of the environment; and the beautiful artworks on display. These outer representations are a true reflection of the educational perspectives which are embedded in the pedagogy.

Overall, the holistic nature of the education is an expression of the core values that inform the approach. The creativity which is a key feature of the education, the phenomenological methodology, and the developmental view of childhood, are manifestations of the holistic orientation. In keeping with other holistic approaches, education is understood to be the art of cultivating and integrating the physiological, psycho-emotional and ethical-spiritual dimensions of the developing child. The prime purpose of Steiner Education is to support and educate children such that their own innate and unique human qualities may come to greater fulfilment (SEA home web page, www.steineroz.com). With the growth of holistic educational approaches, more attention is being paid to the concept of unity in diversity and to the relationship whereby each part of a whole forms a miniature (or holographic) version of the
larger whole. The nurturing of each child’s individual potential is therefore valued within the ‘whole’ context of society and in relation to the ever wider local, national and global spheres of activity. Students are encouraged to find identity, meaning and purpose in life by forming connections with community, the natural world and with values such as compassion and peace (Ron Miller, 2000, 2006). Further manifestations of the holistic orientation include the nurturing of a sense of reverence for life, feelings of wonder and awe and a passionate love of learning (Gidley, 2009; Nielsen, 2004). Emphasis is placed on the principle of rhythm and balance in teaching. The structure of the day relates learning modes to day-night rhythms (Glasby, 2008), and daily lessons, weekly and yearly timetables are rhythmically synchronised and patterned. To raise student awareness of the greater rhythms in nature, society and the world the seasons and cultural festivals are celebrated. Subjects are carefully integrated and intellectual, artistic and physical activities are interrelated to further foster holistic learning experiences. Teaching methods favour multi-modal arts learning, real life experiences, and ‘lively sources of knowledge’ that include gymnastics, dance-movement, and the dramatic arts. Inspired by the Liberal Arts tradition of learning the curriculum is comprehensive and multi-disciplinary by nature and values both breadth of scope and deep knowledge.

The nurturing of each child’s individual potential is valued within the ‘whole’ context of society and in relation to the ever wider local, national and global spheres of activity… Manifestations of the holistic orientation include: a sense of reverence for life, feelings of wonder and awe, a passionate love of learning, rhythm and balance in teaching, multi-modal arts learning, a comprehensive and multi-disciplinary curriculum, deep knowledge strategies.

A Curriculum formed out of a developmental approach to pedagogy

The Steiner educational approach is aligned with humanist values that strive towards the inclusion of universal human elements in the curriculum. A core feature of the Steiner curriculum rests on the understanding that the course of growth of each child into adulthood recapitulates aspects of the developmental pathway of humanity through history (Steiner, 1996 [1907]; Gidley, 2009). This philosophical orientation provides a framework for integrating curriculum content from Kindergarten to Class Twelve and also informs the method by which the curriculum is delivered to different age groups.

Three main stages of childhood development are identified (Steiner, 1996 [1907]) that are based on observations and research relating to the physiological, socio-emotional and cognitive growth changes that take place in the life of the child.

Cognitive development is understood to encompass the imaginative capacity, and the active learning of skills is seen to include the broad spectrum of handcraft, physical co-ordination, information technology and the nurturing of inner attributes like sense observation, aesthetic awareness and strongly willed or concentrated thinking. A core aspect of the pedagogy aligns the areas of cognitive (thinking), emotional (feeling-affect) and physical/behavioural (willing) development to the three main stages of childhood. While the faculties of ‘thinking, feeling, willing’ are present and active at every age there are optimum points when they can be strengthened and supported by the curriculum and the way in which it is delivered. The introduction of skills and knowledge is therefore based on a concept of child-readiness and age-appropriate education that relates to the following (approximate) stages:

1. **Preschool (0-7 years)** is characterised by children actively learning through imitation and their own creative experience, in a safe, natural and loving environment. The child’s imagination and sense of wonder is fostered, without intellectual abstraction, through stories, songs, creative play, interaction with nature and involvement in everyday human activity.

2. **Childhood (7-14 years)** is the optimal stage for nurturing imagination. Curriculum content, cognitive development and skill-building are approached through pictorial and imaginative presentation, embodying narrative, creative writing, the visual arts, music, drama and movement. This fostering of the feeling life enables the students to live into and engage more fully with the academic material. The timing of curriculum content and lessons is carefully matched to meet the children’s developmental and emotional needs.
3. **Adolescence (14-21 years)** is the period of transition from childhood to adulthood which is characterised by rigorous intellectual development. Students are ready to move into the adult domain where their conceptual capacity and ability for judgment becomes more refined and sophisticated. Emphasis is on exploration of phenomena, logical analysis of ideas and the formulation of questions. The curriculum aims to foster courage, confidence and resilience; to support students in their striving to find their own authentic voice, positive and affirming strategies are used. (*The principles of childhood development are further elaborated in Attachment 3*).

### A comprehensive and integrated curriculum

The **Main Lesson** is an integrated, multi-modal block lesson which mostly takes place during the first allocated lesson for each day for approximately two hours.

As the lesson sequence continues for two to four weeks this intensive treatment of one subject area facilitates ongoing discussion and in-depth learning and understanding. Themes for lesson content are taken from the Key learning Areas of English, Mathematics, Science, Humanities, and the Creative Arts. Each Main Lesson is linked to the others across the particular year as well as to those from the same subject area in the preceding and following years in a way that springboards the next revisiting of the subject theme as students develop more critical abilities. The main lessons incorporate different learning styles and disciplines, with the aim of balancing cognitive, aesthetic and experiential learning and embedding values. Specialist subject lessons in the arts, languages and practical crafts, and Practice Lessons which build on literacy and numeracy skills and other aspects of the content and skills covered in the morning classes supplement the main lesson.

### Teaching is recognised to be an art and a science

The style is most aptly demonstrated by the phenomenological approach which combines aesthetic awareness with a form of close *empirical-scientific observation* of the phenomenon under review (*Hoffman, 2000, 2007; Glasby, 2001, 2005; Glasby, O’Flaherty & Millar, 2005*). The method favours slow, quantitatively rigorous but qualitatively rich methods that deepen and contextualise the learning in a manner that is accessible to all students. A moral dimension is implicit in the approach: the students know and understand the content, but as their feelings have been touched by the learning process, they also care about the phenomenon under observation and are more likely to awaken to the ethical dimension of the learning experience. (*A description of the phenomenological methodology is further outlined in Section 5.3 & 5.4 below*).

### Values, social consciousness and citizenship

Guided by the perspectives that Noddings (2003, 2008) emphasizes in her writings on the pedagogies of care and happiness, Steiner education promotes the practice of ‘looping’ whereby ideally one teacher stays with the same class through the middle period of childhood (7 to 14 years). The continuing relationship between the child and the Class teacher, as well as the regular communications with parents, enables the teacher to continuously assess the child’s work in a discreet and accurate way, and to understand individual strengths and weaknesses. The teacher is able to monitor the child’s progress along a continuum, covering academic, developmental and social aspects. While standards based testing is followed, it finds its place within the approach emphasises formative assessment. rather than relying heavily on formal testing.

In the same way in which Steiner education not only teaches art but teaches through the arts, values education is embedded in the ethical perspectives of the curriculum (*Lovat et al., 2009*).

The Steiner approach is Christian centred but embraces all religious affiliations. While recognising the spiritual dimension of the child, Steiner education does not include instruction in religious creeds but draws instead on the diverse literary traditions associated with the world’s leading religions to inform the festival celebrations and the rich narrative elements of the curriculum.
The expression of social consciousness in the following varied facets of school life is worth noting:

<table>
<thead>
<tr>
<th>Global perspectives</th>
<th>The universal nature of human development and of world history provides the context for curriculum content. Students participate in projects to assist schools in developing nations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia literacy</td>
<td>Extensive networks are formed with schools in Asia and other countries.</td>
</tr>
<tr>
<td>Aboriginal perspectives</td>
<td>Relationships are fostered with Aboriginal and Torres Strait Islander communities and Aboriginal content is included in the curriculum</td>
</tr>
<tr>
<td>Inclusivity</td>
<td>Schooling is inclusive, non-selective and non-elitist.</td>
</tr>
<tr>
<td>Team work and collaboration</td>
<td>Cooperation rather than competition is encouraged. Listening skills are developed through the strong use of narrative strategies and modes. School management models favour distributed leadership and collegiate working. Parents are actively involved in school activities.</td>
</tr>
<tr>
<td>Social service</td>
<td>The curriculum includes farm and work experience, and social service programs.</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Sustainable living is a core value as expressed for example in health and nutritious food policies, the use of natural materials, and biodynamic gardening programs.</td>
</tr>
<tr>
<td>Lifelong learning and professional development</td>
<td>Lifelong learning is embedded in the curriculum approach and enacted in the community lifestyle. Parents have the opportunity for active involvement in adult education programs. Teachers and educational administrators participate in regular study, artistic/dance movement/music workshops, in-service programs and conferences.</td>
</tr>
</tbody>
</table>

While the Steiner approach to curriculum and methodology is based on the above principles which consequently inform its distinctive pathway, Steiner education shares a destination in common with all educational approaches that strive to develop the potential of each child.
3.2 Rationale

Education plays a critical role in shaping the lives of the nation’s future citizens. To play this role effectively, the intellectual, personal, social and educational needs of young Australians must be addressed at a time when ideas about the goals of education are changing and will continue to evolve (The Shape of the Australian Curriculum v2.0, Dec 2010, p.5. para 9).

If, through an artistic approach which appeals to the whole human being, we gradually unfold in our teaching what has become purely intellectual in the world, our pupils will grow into complete and integrated personalities, capable of developing real initiative (Steiner, The Renewal of Education, [1920] 1981, p.217).

3.2.1 Steiner education in the light of educational futures research

As the 1919 centennial date of the inception Steiner education draws closer, it is interesting to note that many educational theories and practices that are considered new and cutting edge in contemporary educational circles, are the foci of continued experimental action research in Steiner schools. Building on the foundations of experiential, phenomenological, and evidence-based research in the areas of imaginative education and socio-emotional pedagogy Steiner educators are now working alongside mainstream researchers in these and other related fields (Gidley, Turning Tides, 2008; Fundación Marcelino Botín, 2008).

Characteristic features of the changing educational landscape that resonate with key aspects of the Steiner educational approach include the increased attention that is being paid to creativity, complexity, flexibility, vitality, and spiritual awareness; there is also an expanding interest in theories of holism/integrity, pluralism/multiculturalism and humanism (Gidley 2009; Slaughter, 2004).

Over the last twenty to thirty years, educational futures researchers have undertaken research to identify key components of a 21st century education that will better prepare young people for the complexities and uncertainties of the future. A contribution towards this endeavour was provided by the report of two Australian researchers Beare and Slaughter (1993) who listed a number of educational features which they recommend schools should incorporate to better prepare young people for the future. Gidley’s (1998, 2002) research response to their report notes significantly that eight of the ten identified features form core aspects of Steiner education. Most of the Steiner students interviewed seemed undaunted by negative forecasts of the future in terms of their own will to do something to create their ‘preferred future’ (Gidley, Bateman et al., 2004; Gidley and Hampson, 2005; Dahlin, 2007).

Research reports indicate that Steiner graduates have a positive orientation towards the social and environmental issues and that they are well equipped to meet the future.

The Steiner educational approach identifies developmental change at work both on the level of psychological processes and in the manifestations of cultural life. Like Jean Piaget, Steiner (1909/1965) wrote substantially about the relationship between individual growth (ontogeny) and cultural development (phylogeny). He therefore saw evolution not only as a biological phenomenon, but as one occurring on the level of culture and consciousness as well (Mazzone, 1999; Gidley, 2007a, 2007b). These perspectives influenced his pedagogical views as he realised that children outlive and surpass their teachers as the bearers of responsibility for the future evolution of culture and society. The recent work of Ken Wilber (1996; 2000), Jean Gebser (1949/1985) and others substantiates much of Steiner’s pioneering work (1926/1966; 1930/1983) on the evolution of culture and consciousness. The main empirical and theoretical support comes from research in the area of adult developmental psychology which demonstrates that conceptual development continues to unfold beyond the formal stage into post-formal stages (Kohlberg, 1990; Sinnott, 1998; Hoare, 2006; Commons and Ross, 2008). Scientific grounding of the holistic qualities of the leading perspectives is found in the field of research in quantum physics. Karl Pribram, the neuroscientist and who working together with the quantum physics pioneer David Bohm, developed holonomic brain theory, comments on the nature of holism:
The type of holism revealed by holography is kin to the holism of the holy, the healthy. The
discovery of holography is thus a most important occurrence. For the first time in centuries
scientific practice and theory have brought science and the spiritual disciplines into congruence
(Pribram, 2006, p.44).

It is within the context of this developmental approach that Steiner education is situated as a curriculum
suited to meet the needs of the 21st century. The intention of the underlying design of the curriculum is to
incorporate relevant elements of the identified developmental stages of thinking and learning into the
educational framework (Mazzone, 1993; Nielsen, 2004, Gidley, 2007, 2008, 2009). In meeting this
objective the education encompasses a deep ‘understanding and acknowledgment of the changing
nature of young people as learners and the challenges and demands that will continue to shape their
learning in the future’ (The Shape of the Australian Curriculum, May 2009, p.6).

3.2.2 Steiner strategies that address the changing educational context

A. Drawing on significant changes during the last twenty years with implications for education The
Shape of the Australian Curriculum v2.0 (December 2010, p.5) presents the list transcribed below
in the shaded sections. Comments that relate to the application of the change orientations in the
Steiner educational context are written in the unshaded rows below each of the numbered points.

1. Global integration and international mobility have increased rapidly in the past decade. As a consequence,
new and exciting opportunities for Australians are emerging. This heightens the need to nurture an
appreciation of and respect for social, cultural and religious diversity, and a sense of global citizenship.
The firm ethical foundation of Steiner education is
directed towards achieving the above goal. As the
curriculum places focal importance on universal human qualities, international and global perspectives
are embedded in the content: the central main lesson curriculum for each year encompasses material
from the major cultural periods that encompasses a rich study of the myths and legends of many
countries (ages 6-11), a geographical survey and an historical review of cultural world history (ages 11-
16). Other multicultural elements include the study of foreign languages (from age 6) and the
celebration of diverse community festivals. The global nature of the Steiner education community
means that the curriculum is adaptable to widely differing cultural contexts. Strong research networks
support the international sharing of evidence based educational research. The first international
refereed academic journal ‘RoSE: Research on Steiner Education’ was launched in April 2010. Student
development assistance projects, visits to countries like India, Borneo and East Timor, and exchange
programs in 66 countries further facilitate cultural exchanges.

2. India, China and other Asian nations are growing and their influence on the world is increasing. Australians
need to become ‘Asia literate’ by building strong relationships with Asia.

Steiner educators support educational initiatives in developing nations, e.g. Asia, Africa. Leading
researchers/teachers participate in annual international and Asia Pacific Steiner education conferences
which expands dialogue on the integration of cultural and educational perspectives. The inclusion of
Asian elements in the curriculum areas of ancient mythology, cultural history, geography, and the study
of Asian languages from primary school onwards fosters ‘Asia literacy’.
Globalisation and technological change are placing greater demands on education and skill development in Australia and the nature of jobs available to young Australians is changing faster than ever. Skilled jobs now dominate jobs growth and people with university or vocational education and training qualifications fare much better in the employment market than early school-leavers. To maximise their opportunities for healthy, productive and rewarding futures, Australia’s young people must be encouraged not only to complete secondary education, but also to proceed into further training or education.

Surveys of Steiner graduates (see Attachment 3) indicate that most continue into university or vocational education and find rewarding employment (Ribeiro & Pereira, 2007; Woods, 2003). The Steiner approach proposes that the development of individual potential effectively leads to full adult participation in the economic and socio-political activities of the nation. The emphasis placed on instilling a love of learning and a sound work ethic maximises ‘opportunities for healthy, productive and rewarding futures’. The broad curriculum is oriented towards assisting students to identify their ‘vocational calling’ and to equip them with skills to best meet their chosen career pathway. A significant part of the high school curriculum includes work, farm experience and social service programs which prepare students for work in the world.

Complex environmental, social and economic pressures such as climate change that extend beyond national borders pose unprecedented challenges, requiring countries to work together in new ways. To meet these challenges, Australians must be able to comprehend and use scientific concepts and principles, and approach problem-solving in new and creative ways.

The Steiner approach proposes that grounding science education in holistic methodology contributes towards addressing the current ‘complex environmental, social and economic pressures’ that influence educational practice (Gidley, 2009; Hoffman, 2007; Lovat and Smith, 1995; Slaughter, 2004). The imaginative orientation conceives of problem-solving and scientific conceptualising as significant aspects of a capacity for creative thinking that is not subject dependent (Eisner, 2009; Robinson, 2007; Egan, 2008). In science teaching hands-on activities and observation strategies are used as the basis for the later development of scientific concepts; students are not presented with ready-made concepts but are guided through a phenomenological process of discovery learning to build the concepts from their own observations and discussions. This approach provides a firm foundation for the gradual development of the ability to comprehend and use increasingly advanced scientific concepts and principles (Seamon & Zajonc, 1998; Hoffman, 2007; Glasby et al., 2005).

Rapid and continuing advances in information and communication technologies (ICT) are changing the ways people share, use, develop and process information and technology, and young people need to be highly skilled in ICT. While schools already employ these technologies in learning, there is a need to increase their effectiveness significantly over the next decade.

The Steiner approach understands ICT literacy as the mature capacity to participate creatively, critically, and responsibly in making technological choices that serve democracy, ecological sustainability, and a just society. The earlier picture of ICT literacy focused mainly on skill and competence in using machines. The new definition focuses on teachers’ and students’ creativity, critical judgment, and ethical responsibility. In order for students to play active roles as creators and responsible users of technology, the full range of human capacities needs to be cultivated, not only technical skills. The importance of human interaction, artistic experience, and the fostering of imaginative capabilities is central to the pedagogy and ICT is integrated into the experiential approach of the curriculum. While Steiner education strongly supports the view that students need to be highly skilled in ICT by the time they graduate, the ‘slow knowledge’ approach brings an ethic of social responsibility and a deep understanding of the embedded skills in ICT that are first learnt on a concrete level.
### 3.2.3 Further details relating to the Rationale

| B | In the section below statements selected from *The Shape of the Australian Curriculum v2.0* (2010, p.6) have been transcribed and adapted with the double intention firstly, of endorsing the national guidelines wherever possible by leaving the statements in their original form (or where this is not relevant the original words have been deleted); and secondly, of clarifying associated Steiner perspectives where appropriate, in which case the added words, phrases and sentences have been italicised. |

#### The changing nature of young learners

Education must not only respond to these remarkable changes but also, as far as possible, anticipate the conditions in which young Australians will need to function as individuals, citizens and workers when they complete their schooling. These future conditions are distant and difficult to predict. It is expected that almost all young Australians who begin primary school in 2011 will continue their initial education until 2022. Many will go on to further education or training through to the mid-2020s and later. *Steiner education recognises that young people will need a wide and adaptive set of knowledge, skills and understandings to meet the changing expectations of society and to contribute to the creation of a more productive, sustainable and just society* (*The Shape of the Australian Curriculum v2.0*, 2010, p.6, para 11).

#### An Australian Curriculum in the 21st century needs to acknowledge the changing ways in which young people will learn and the challenges that will continue to shape their learning in the future. The curriculum is important in setting out what will be taught, what students need to learn and the expected quality of that learning (*The Shape of the Australian Curriculum v2.0*, 2010, p.6, para 12).

#### The Steiner curriculum will draw on original indications and current practitioner research to inform and critically reflect on the identified features of the stages of child development. Teachers will consider ways to apply guidelines arising out of contemporary educational research that resonate with, critique and further extend the pedagogy.

#### Cross-sectoral work towards a world-class education

The *Steiner* commitment to develop a national curriculum reflects a willingness of *Steiner educators in Australia* to work together, across geographical and school-sector boundaries, to provide a world-class education *that will be of benefit to the Australian Steiner school community and the Steiner community internationally*. Working nationally makes it possible to harness collective expertise and effort in the pursuit of this common goal. It also offers the potential of economies of scale and a substantial reduction in the duplication of time, energy and resources (*The Shape of the Australian Curriculum v2.0*, 2010, p.6, para 13).

*In describing what young Australians educated in Steiner schools are currently learning the Australian Steiner curriculum will contribute towards a global education movement that will be further enhanced through a process of international collaborative research and a widening network of connections e.g. the Fundacion Botin, ([http://www.fundacionmbotin.org](http://www.fundacionmbotin.org)) and the RoSE Journal ([http://www.rosejourn.com](http://www.rosejourn.com)).* Other international organisations include the following:

- European Council for Steiner Waldorf Education, and WREN: Waldorf Research Educator’s Network
- [www.steinerwaldorf.org](http://www.steinerwaldorf.org) - Steiner Waldorf Schools Fellowship, UK and Ireland. This site also has further links to the world-wide movement
The aim … (of Steiner education) … will always be to develop the ability to take responsibility, to experience the inter-relationships of actions, to turn to the needs of the world and of the people around us. All these activities grow out of the abilities that have been acquired in artistic work and in the practice of crafts and technologies. The young adult can leave the school with a clear perception of what is around him or her, with enthusiasm... and with the will to work in the world to answer its needs.’


What potential does an individual have and what can be developed in him or her? When this is taken into account each new generation can bring forces of continuous renewal to the social order. In this social order there will then live all that the fully mature human beings in it cause it to be (Steiner, 1909/1969, p.250).

Steiner education strives to ennoble the mind and to fire the imagination, to fortify the will and to quicken the initiative for life; to sow such seeds as may produce new vision and discovery in the years to come: not to mould the mind, but to enable it to grow to new dimensions. Thus, it serves the present for the future and awakens the motivation for life-long education and self development (Francis Edmunds, Innovator in Rudolf Steiner Teacher Education, Emerson College, UK).
3.3 Goals of Steiner Education

3.3.1 Cognitive and moral development and socio-emotional learning

As noted above a core aspect of the pedagogy of Steiner education is the alignment of the areas of cognitive, emotional and physical/behavioural development to the three main stages of childhood. The maxim ‘Head, Heart and Hands,’ is often used as a motto for Steiner education to capture the essence of this threefold alignment. The identification of the three faculties as important in the educational context actually predates Steiner’s writing. His predecessor, Swiss pedagogue and educational reformer Johann Heinrich Pestalozzi (1746-1827) placed significant emphasis on balancing ‘head, heart and hands’ in schooling. In this way Pestalozzi and Steiner both reflect the classical roots of their philosophies for the threefold aspect was originally identified with the three Platonic virtues of Truth, Beauty and Goodness. As Steiner was also thoroughly schooled in Kant’s philosophy (1724-1804), it is interesting to note a further resonance in the alignment of Kant’s three critiques with the virtues: The critique of pure reason relates to the virtue of Truth and is aligned with Thinking and the Head; the critique of practical reason is concerned with questions of Ethics, Goodness, and the nature of the Will; and the critique of judgement as a treatise on Aesthetics and Beauty is associated with the Heart.

The three virtues of Truth, Beauty and Goodness (Wilber, 2000) are applied in Steiner education as leading motifs for the three unfolding stages (Steiner, 1923/1986; Childs, 1999; Haralambous, 2008, 2010). The motif for early childhood, when young children are very active in the limbs or ‘willing’ sphere, is Goodness. In their play children often enjoy imitating the activities of adults. However children also imitate the inner qualities of the adults who care for them and they unconsciously assimilate the moral values of their teachers and parents; they are nourished by ‘authentic’ environments where ‘goodness’ is consciously cultivated.

The very young, pre-school age child comes to know the world and others through physical, sensory activity. This is an immediate, participative way of knowing, by which the child through physical activity, and above all through imitation, emulation and play, comes to know and make the world its own (Steiner, 1996 [1907]).

Beauty is the motif for primary schooling and during this stage the arts play a particularly important role in the aesthetic education of the feeling faculty. In particular attention is paid to the beauty of colour, form and balance, tone, melody, harmony and movement which are expressive of heart qualities.

The primary task through these years is to educate and nourish the imaginative powers of the child. It is this vital picture-making capacity that gives life and insight to logical and conceptual thinking (Steiner, 1996 [1907]).

The third motif of Truth is most applicable in the high school when students are ready to engage in rigorous intellectual thinking and to integrate diverse inner and outer perceptions in a way that enables them to begin to discern truth in themselves.

Adolescents have the longing to discover that the world is founded on Truth. Thus education in these years is concerned primarily with training in thought. Knowledge is not intended to load the mind but to nourish and to stimulate the activity of thought (Steiner, 1996 [1907]).

The experiential and embodied learning of Kindergarten and early primary schooling, which caters for the active inclinations (will element) of young children, forms the foundation for further developments in this area in the later primary period and the high school. In a similar way, the strong imaginative elements, directed at the feeling-affect aspect of children in the middle period is sustained and extended as the adolescent’s thinking comes into its own as a valid and ‘truthful’ pathway for the exploration of the cognitive realm through the thorough development of analytical and logical thinking. While the motto and motifs point towards the main area of development, clearly the three faculties work alongside each other as a whole and each undergo considerable growth and change throughout all the phases. For example, although the early childhood period is characterized by the strong active nature of young children, it is clear that significant development in the spheres of feeling and thinking also takes place at this time (Steiner, 1907/1996; Childs, 1999).
3.3.2 Alignment of Steiner Educational Goals with the Melbourne Declaration

From a Steiner perspective, the faculties of ‘thinking, feeling and willing’ are embedded in the way the educational goals for young Australians in the Melbourne Declaration (2008) have been formulated. The sphere of thinking, of cognitive skills and intellectual ability is implicit in the orientation towards the goal of ‘successful learners’; that of feeling and affect which is understood to include ‘managing emotional, mental, spiritual and physical well being’ is captured in the phrase ‘confident and creative individuals’; and lastly, willing or the domain of behaviour and action learning resonates with the educational striving towards ‘active and informed citizens’. The table below illustrates the noted alignments:

<table>
<thead>
<tr>
<th>Melbourne Goals:</th>
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</thead>
<tbody>
<tr>
<td>Successful learners</td>
<td>Confident and creative individuals</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key features of Steiner education:</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEAD/TRUTH Thinking faculty</td>
</tr>
<tr>
<td>Cognitive development Intellectual aptitude</td>
</tr>
<tr>
<td>HEART/BEAUTY Feeling capacity</td>
</tr>
<tr>
<td>Socio-emotional learning Empathy ; socio-emotional intelligence</td>
</tr>
<tr>
<td>HANDS/GOODNESS Strength of Will (or ‘Willing’); Ability to develop inner discipline; to act in a moral way</td>
</tr>
<tr>
<td>Experiential learning</td>
</tr>
<tr>
<td>Active skillfulness &amp; Moral consciousness</td>
</tr>
</tbody>
</table>

3.3.3 A detailed analysis of the alignment

The Melbourne Declaration commits ‘to supporting all young Australians to become successful learners, confident and creative individuals, and active and informed citizens’ (see Box 2) and to promoting equity and excellence in education (The Shape of the Australian Curriculum v2.0, December 2010, p. 7, para 15). The dot points as listed in Box 2 are transcribed in the shaded sections below. Comments that relate to the application of the goals in the Steiner educational context are written in the unshaded rows below each of the numbered points.

**Successful learners**

- develop their capacity to learn and play an active role in their own learning
- The Steiner educational approach understands the central task of education to be that of supporting students to progressively learn to direct and take responsibility for their own learning process (Steiner, 1996 [1907]; 1995 [1924]).
- have the essential skills in literacy and numeracy
- A soundly structured program of literacy and numeracy teaching (see attachment 3b) ensures that these essential skills are taught in a systematic and sequential manner so that students become capable and enthusiastic writers and readers, proficient in mathematics, agile in problem solving and creative thinkers across cognitive fields. Literacy and numeracy skills are embedded in all lessons and given scope for reinforcement and integration through the main lesson curriculum. The teaching of numeracy moves in a carefully planned and structured way from the visual to the remembered, from the concrete to the conceptual. The active approach to learning includes experiential aspects: many of the rhythmic activities used at the beginning of the main lesson (e.g. skipping, games, recitation, singing, drumming, clapping) are oriented towards reinforcing numeracy skills. A firm foundation for literacy skills is laid through the dominant use of the narrative mode which emphasizes rich oral language experience through a curriculum steeped in myths, legends, oral storytelling, drama & poetry (Nielsen, 2004; Oberman, 2007; Woods, Ashley & Woods, 2005).
- are creative and productive users of technology, especially ICT, as a foundation for success in all learning areas
- A point of difference exists between the timing of ICT skills set out in the Australian curriculum and the Australian Steiner curriculum. Steiner education emphasises experiential learning and technologies of all types play a strong role in many activities. In early primary the approach promotes learning, at first, through bodily and sensory experience, imagination, adult example and the acquisition by degree of manual, social and intellectual skill. It is important, for example, that children learn to paint, draw, write, model skilfully before being taught how to paint on a computer. These creative technology skills that

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2 In the Primary school these activities are traditionally referred to as Morning Circle
are introduced extensively in the primary school are in line with the new call for more ‘low impact’ and ‘soft technologies and skills’ in education as reflected in the government’s new Innovation Policy (Commonwealth of Australia 2009). During the later stages of schooling, integrating the use of computers with existing areas of learning is a creative endeavour that effectively equips students for the pursuit of innovative careers in ICT. In the high school skills learning is placed in the historical, social and ethical context of ICT in the world, thereby fostering deep knowledge and social responsibility. Refer to attachment 4 on ICT for further information and a discussion of the Steiner rationale.

are able to think deeply and logically, and obtain and evaluate evidence in a disciplined way as the result of studying fundamental disciplines

Steiner education follows the tradition of the Liberal Arts comprehensive curriculum which highly values the conventions of the fundamental disciplines (van Houten, 2003). Holistic strategies and the integrated and cyclical nature of the main lesson curriculum promote deep learning outcomes through the reiteration and elaboration of concepts over time. The phenomenological teaching methodology facilitates discovery learning (Bruner, 1960, 1986). Rather than providing students, as a first step in learning, with ‘ready-made’ or abstract theories and the exchange of ‘stale ideas about the already said’ (Lyotard, 2004), students are guided through a process of observation and theory formulation over time (Allison, 2008). Understanding arises from students connecting their own experiences and evaluation of evidence with the emergent ideas (Glasy, 2001, 2005). Research and students’ self-reporting indicate that these strategies effectively meet the goal listed above. See attachment 1 (review of graduate outcomes), attachments 2 and 3, and section 6 below for further discussion of the learning methods related to this goal.

are creative, innovative and resourceful, and are able to solve problems in ways that draw upon a range of learning areas and disciplines

The core characteristic of creativity defines the Steiner educational approach. Students are encouraged to form their own inner pictures and images as a key aspect of the development of thinking skills. Arts-based teaching methods facilitate the unfolding of creativity, innovation and resourcefulness in a way that contributes towards all stages and problem solving in all areas of learning (Steiner, 1907/1996; Schoorel, 2004; Eisner, 2009). Surveys of graduate outcomes report high levels of creativity in Steiner students (Gerwin & Mitchell, 2007). See Attachments 1 & 3 a – d

are able to plan activities independently, collaborate, work in teams and communicate ideas

The Steiner approach uses many strategies to achieve these goals, e.g. the morning main lesson opens with group activities (e.g. games, singing, clapping, skipping, poetry recitation) that foster team skills. Students are trained from Kindergarten onwards to carry out classroom and/or homework tasks habitually which encourages an independent work ethic. The rich narrative content is directed towards both communication skills and socio-emotional development through the inclusion of moral themes. Independent learning skills are fostered through the extensive use of projects which culminates in Year 12 when students undertake a major independent research study that includes a practical component, an extended oral presentation (to a public audience) and a long dissertation.

are able to make sense of their world and think about how things have become the way they are

The integrated curriculum aims to nurture the individuality of each student so as to help them to make sense of the relationship between their inner and outer worlds. The approach works towards the integration of cognitive and emotional, physical and psychological aspects of development. Emphasis is placed on physiological rhythms and processes which are understood to play a significant role in the development of faculties whereby students can express themselves and relate to the world and other people in a socially fruitful way (Rawson, 2000, p.8). Aspects of the approach that inform this goal include the embedded values, the scientific-phenomenological methodology and strategies which emphasise rhythm, balance and arts-based learning. See section 6.2.1 and 6.2.2 below for a description of the 3 steps of learning and other related strategies.

are motivated to reach their full potential

The Steiner educational approach aspires to help students to reach their full potential by supporting them to find a balance between form and freedom. The deep knowledge strategies that are used are relevant to this goal. For a fuller discussion of the values framework that underpins the educational objectives of self-fulfilment and moral development (Steiner, 1894/1964; Dahlin, 2007), see Attachment 2, and section 6 below for an outline of the related methods.
Confident individuals

have a sense of self-worth, self-awareness and personal identity that enables them to manage their emotional, mental, spiritual and physical wellbeing.

Strategies that support a positive sense of self identity and independent direction include the importance placed on the connection between inner and outer worlds, and the valuing of reverence, meaning, and relationships, e.g. teacher ‘looping’ provides a sense of security, constancy of attention, positive feedback and modelling of community (Dahlin, 2007).

have a sense of optimism about their lives and the future – are enterprising, show initiative and use their creative abilities

Gidley’s study (1998) of Steiner students’ views and visions of the future demonstrated that those educated in Steiner high schools are not disempowered by negative images of the future portrayed in the media, and that educational input can potentially facilitate a positive outlook. The students surveyed revealed a sense of optimism about their lives and empowerment in terms of their own will to do something to create their ‘preferred future’ (Gidley and Hampson 2005).

develop personal values and attributes such as honesty, resilience, empathy and respect for others

The moral philosophical framework of Steiner pedagogy nurtures emotional or heart intelligence; the educational methodology is holistic, experiential, integrated and steeped in values like honesty, resilience, empathy and respect for others that support wellbeing and happiness and socio-emotional learning (Gerwin & Mitchell, 2007; Masters, 2007).

have the knowledge, skills, understanding and values to establish and maintain healthy, satisfying lives.

The phenomenological teaching methodology is oriented towards the integration of knowledge, skills, understanding and values in a way that helps students to maintain healthy lives.

have the confidence and capability to pursue university or post-secondary vocational qualifications leading to rewarding and productive employment

As the educational approach fosters a lifelong love of learning and deepening thought and understanding, many graduates take up tertiary study pathways and commit themselves to lifelong learning (Dahlin, 2007; Gerwin & Mitchell, 2007).

relate well to others and form and maintain healthy relationships

Educational researchers are becoming increasingly aware of the role of the arts in socio-emotional development (Clouder, 2008); clearly the capacity to be empathetic towards others is dependent on the ability to imagine oneself in the other’s situation (Rogers, 1969). Apart from the beneficial effects of educating the creative capacity of children, Steiner educators use other strategies designed to promote the development of healthy social skills, e.g. games, team work, restorative practices, moral themes in literature content, etc. (See attachments 2 for more detailed information.)

are well prepared for their potential life roles as family, community and workforce members

Research data relating to Steiner graduate outcomes reflects that on leaving school students are well adjusted and are oriented towards family, community and ‘service’ to others. Students surveyed suggest that as ‘the whole is greater than the sum of its parts so individual empowerment is tempered with community empowerment issues rather than individual egotism or power-seeking’ (Gidley 1998; Dahlin, 2007). (See the report in attachment 1.)

embrace opportunities, make rational and informed decisions about their own lives and accept responsibility for their own actions

The emphasis that is placed on integrating cognitive and socio-emotional faculties is designed to support students to be well balanced. In particular the sphere of feelings and affect is understood to influence the weighing up of judgments (Steiner, 1921/1993). Aesthetic training therefore supports both cognitive (rational) development and strengthens the moral ‘will forces’ needed for responsible decision making (Steiner, 1964 [1894]). (See attachment 2.)

Active and informed citizens

act with moral & ethical integrity

Steiner pedagogy is grounded in values that support students to grow towards moral and ethical maturity (Steiner, 1964 [1894]; Mazzone, 1999; Clouder, 2008). The reiterative flow of learning across the thinking-feeling-willing continuum contributes to the integration of these elements in the inner self and builds connection and meaning with others and the world. The interweaving of skills-understanding-knowledge (as reflected in the curriculum design documents) plants seeds for later
students educated in structured to pace the student's gradual understanding of other cultures by moving of the national and selecting material for narrative content and (Gidley, 2002; Glasby, 2005; Dahlin, 2007). (See Attachments 1 and 2.)

The global nature of Steiner education entails its adaptation in diverse socio-cultural, linguistic and religious contexts. On-going curriculum development in Australia ensures that material relating to Australian government, history and culture is used when selecting material for narrative content and geographical and historical studies.

Indigenous content including myths and legends, nature stories, music, geography and history are incorporated into the curriculum. The indigenous view that human beings are the custodians of nature and the caretakers of the natural environment is one that resonates with Steiner philosophy. Many Steiner school communities have developed links with indigenous communities and actively promote reconciliation.

Research of Steiner students’ future visions reflects the high regard placed on: less homelessness, hunger and poverty; equity (no divisions of race/class/gender/culture); democracy (political freedom/land rights for indigenous peoples); a reduction in health problems and social pressures (Gidley, 2002; Dahlin, 2007). (See Attachments 1)

The curriculum is structured to pace the student's gradual understanding of other cultures by moving from their own direct environment at a young age to that of the surrounding community, and then further afield to the local town/city context, followed by the furthest reaches of the national and international worlds. As Steiner education posits that the most effective way to enhance intercultural understanding is through the learning of foreign languages, many Steiner schools in Australia include Asian languages in the curriculum. Ongoing curriculum revision includes the integration of Asian studies and topics into many subject areas. The international nature of the Steiner community further encourages cross-cultural diversity and sharing; in Australia foreign students are attracted to Steiner schools by the increasingly global nature of curriculum development and research. The Steiner school movement in Asia is rapidly expanding which promotes increased communication networks and international school tours and projects.

There is a close relationship between the active nurturing of the inner life and the care of the natural environment (Slaughter, 2004); the ecology of the soul is closely related to that of nature. Steiner schools value ‘community’ and are naturally oriented towards the goals of ecological literacy and sustainability: schools pay special attention to the aesthetics and harmony of the school environment as reflected in the beautiful architectural designs of the buildings and landscapes which accord with the organic forms of the surrounding natural environment. All materials used in the schools, from the toys and learning aids of Kindergarten to the equipment used in high school are chosen for their beauty and ecological sustainability as well as their function (Bradley, 2005).

The holistic nature of the pedagogical approach emphasises the importance of the whole field; the local and global situations are understood to be closely interrelated and strategies are designed with this goal in mind. Underpinning Steiner education’s orientation towards the global future are the pedagogies of ‘love, life, wisdom and voice’ (Gidley, 2009) which are included as key elements of the curriculum design and the templates for content elaboration. Research reports identify that students educated in Steiner high schools have a ‘strong sense of responsibility and engagement in relation to issues of global and local concern to them as citizens’ (Gidley and Hampson, 2005; Dahlin, 2007). (See Attachments 1 and 2, and section 6 below).

4. Development of the Australian Steiner Curriculum

4.1 Propositions shaping the Australian Steiner Curriculum

The propositions informing the development of the national curriculum (ACARA publications, *The Shape of the Australian Curriculum*, v2.0, December 2010, p.9, para 16) are listed in the shaded section as an indication of their endorsement in the Australian Steiner curriculum; an accompanying comment is given below on the relevant application of each item in the context of the Steiner national curriculum in Australia.

The Australian Curriculum recognises the entitlement of each student to knowledge, understanding and skills that provide a foundation for successful and lifelong learning and participation in the Australian community.

In the Australian Steiner curriculum emphasis is placed on balancing an understanding of the past with a futures orientation and support for the unfolding biography of the individual student; participation in the Australian community is valued in the context of the global situation.

The Australian Curriculum is presented as a continuum that makes clear to teachers what is to be taught across the years of schooling. It makes clear to students what they should learn and the quality of learning expected of them as they progress through school.

The underlying intention of the Australian Steiner curriculum aims to provide a working document that is explicit about what is to be taught. Knowledge, understanding and skills are clearly identified in a specific and detailed manner so as to support teachers to implement the curriculum in the way that best meets the needs of the children in their care and their specific local/regional and socio-cultural context.

Each Learning Area is organised into Topics. These are content areas which can be taught as one or more integrated thematic morning blocks (Main Lessons) over 3-4 weeks, with connected review and practice lessons developing the content throughout the year.

While it is necessary for the Content Descriptions to be covered, teachers are able to use their professional judgment concerning the needs of their class: content can be recombined or reallocated into Main Lessons and practice lessons over the year.

The Australian Curriculum is based on the assumptions that each student can learn and the needs of every student are important. It enables high expectations to be set for each student as teachers account for the current levels of learning of individual students and the different rates at which students develop.

Steiner schools strive to provide an integrated, multi-cultural, mixed ability educational environment with equal chances for all: ‘the rights of all children to the highest quality education is not only a social ideal but a social necessity’ (Rudolf Steiner, 1997 [1919]). It is important that guidelines relating to the achievement of ‘the highest quality education’ should also facilitate the conscious fostering of a collaborative environment so that students can be supported to reach the target of their personal best standard at the most expedient rate of progress in an atmosphere of social harmony, team work and co-operative problem solving (Rawson, 2004).

The Australian Curriculum is aligned with the Early Years Learning Framework and builds on its key learning outcomes, namely: children have a strong sense of identity; children are connected with, and contribute to, their world; children have a strong sense of wellbeing; children are confident and involved learners; and children are effective communicators.
The Steiner national curriculum recognises the essential importance of building the primary and secondary curriculum on the firm foundation of the Kindergarten phase. The areas of significant similarity and difference between the Early Years Learning Framework and aspects of Steiner education are further discussed in Attachment 3b and section 5.1.1 below.

The Australian Curriculum helps prepare all young Australians to become competent members of the community. It builds firm and meaningful foundation skills as well as providing the basis for developing expertise for the increasing number of students who move on to specialised advanced studies in academic disciplines, professions and technical trades.

The Australian Steiner Curriculum will continue to support young students to develop the foundational skills they need for successful tertiary pathways.

The primary audience for the Australian Curriculum is teachers. The curriculum is concise and expressed in plain language while preserving a complexity appropriate for professional practitioners. Consistency in terms of language and broad structure supports teachers in planning within and across learning areas.

As Steiner teachers are required to meet the standards of educational accountability at a national and state level as well as to implement the curriculum in a way that is aligned with Steiner’s educational philosophy, the Steiner curriculum should ease the burden of constant cross-referencing by providing one working and ‘enabling’ document that serves both purposes. Despite the complex nature of Steiner’s educational philosophy and some of the language and terminology, the Australian Steiner curriculum strives to ensure that core elements of the underpinning pedagogical approach are adequately clarified and that documents are written clearly in language that can be understood on a professional level.

The Australian Curriculum specifies what all young Australians should learn as they progress through schooling and is designed to be taught well within the overall teaching time and with the resources available to teachers and students. School authorities make decisions about the allocation of time and other resources.

Attention is paid to core strategies of the approach that support deep learning processes (e.g. the rhythm of the day and week, main lesson structure, multi-modal learning and artistic activities). The Australian Steiner curriculum should support the primary years teachers who are accountable for several learning areas and have the additional responsibility when ‘looping’ of moving with their class for a five to seven year period which greatly increases the amount of curriculum planning, implementation and evaluation they are required to undertake.

For some learning areas, the Australian Curriculum will be written with the expectation that they will be taught in each year of schooling from Foundation to Year 10. For other areas, the Australian Curriculum will describe an entitlement that students will have the opportunity to learn across Foundation to Year 8, as well as additional learning they may choose and/or schools may choose to provide in Years 9–10.

The time demands of the Australian Steiner curriculum on students should leave room for additional learning beyond the scope of the curriculum.

Jurisdictions, systems and schools will be able to implement the Australian Curriculum in ways that value teachers’ professional knowledge, reflect local contexts and take into account individuals’ family, cultural and community backgrounds. Schools and teachers determine pedagogical and other delivery considerations.

As Steiner teachers, like other educators, highly prize academic and cultural freedom it will be important for them to be able to implement the Australian curriculum in a way that ‘values teachers’ professional knowledge’ and that leaves teachers free to ‘decide how best to organise learning for students’. Ideally the curriculum should leave teachers unfettered in making professional decisions about the best course to follow to meet the educational and developmental needs of the students in their care. However ‘as public institutions, schools have a responsibility to be accountable to pupils, parents and society at large’ (Rawson, 2000). The curriculum should therefore encourage teachers to develop social responsibility and
self-accountability, which includes noting the informed judgment of their peers and the views of parents and pupils (Rawson, 2000, p.4).

The Australian Curriculum is established on a strong evidence base, which is related to learning, pedagogy and what works in professional practice, and has been benchmarked against international curricula.

Steiner teachers meet together on a regular basis to study, research and share classroom learning experiences: as teacher reflexivity and regular collegial study and research are defining features of the ethos of Steiner schools, the Australian Steiner curriculum is aligned with the above principles. Steiner Education Australia (SEA) recently initiated the development of an evidence-based database of research on Steiner pedagogy related to ‘what works in professional practice’ (Gidley, 2008) which has been extended into the international arena by the Pedagogical Research Institute of the German Waldorf School Association (Pedagogische Forschungsstelle). The opportunity provided by the writing of the Australian Steiner curriculum framework further consolidates and strengthens evidenced based research networks and professional curriculum development in the Steiner school community on a local, national and international level.

4.2 Curriculum development process of the Australian Steiner Curriculum

The development process of the Australian Steiner Curriculum has been designed to generate broad discussion and consultation on the shape and design of the Steiner version of the Australian curriculum and closely follows the four interrelated phases that include curriculum framing, curriculum writing, implementation and curriculum evaluation and review as set out in The Shape of the Australian Curriculum, v2.0, Dec 2010, pp. 10-11, para 17-25). The Australian Steiner Curriculum Framework (ASCF) researchers under guidance from the Executive of Steiner Education Australia (SEA) and the appointed Project Manager have identified what activities are to occur within each of these phases, and the timelines for each curriculum development project have been detailed and circulated through the SEA network and webpages. Regular reports will continue to be compiled and distributed.

Let us strive after a real understanding of world evolution, let us seek after wisdom – and we shall find without fail that the child of wisdom will be love (Steiner, 1st January 1912).

School can be a happy and satisfying experience that provides a training or further development in awareness about our interactions with others. The goal for social and emotional learning/skills for life programmes is to give children the tools and understanding in order to enhance their resilience and develop their ability to cope capably with the ups and downs of life (Clouder, p.28).

The concepts of emotional intelligence, literacy and learning found great resonance recently. We stand on the brink of changes brought about by the vast amount of research conducted in the last few years regarding neurobiology, child development, human emotional capacities and learning processes (Clouder, p.30).

Steiner school graduates “possess the eye of discoverer, and the compassionate heart of the reformer which, when joined to a task, can change the planet” (Zajonc, UNESCO 1994).
5. Scope of the Australian Steiner Curriculum

5.1 The curriculum across the years of schooling

The Australian Steiner Curriculum supports the statements outlined in *The Shape of the Australian Curriculum*, v2.0, December 2010, p.11, para 24 to 27.

5.1.1 Kindergarten to Class 3

The Steiner approach identifies age 9 as a significant point in childhood development. As this threshold is usually reached during the course of Class 3, the Australian Steiner curriculum is designed to take this developmental perspective into account and the first stage of schooling is therefore identified as lasting from the Kindergarten to Class 3 and not Class 2 as used in the Australian Curriculum. The table below lists the developmental observations made in the Australian Curriculum that relate to the period Foundation Year to Year 2 and compares them with the Kindergarten to Class 3 in the Steiner approach. This stage of development in Steiner Education is recognised to progress more slowly than in the Australian Curriculum. The reasons for the divergence and slow knowledge approach are outlined in the child development papers (see Attachment 3b).

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<table>
<thead>
<tr>
<th>The Shape of the Australian Curriculum, v2.0, December 2010, p.11, para 28:</th>
<th>ASCF: Children are encouraged to develop a sense of wonder, awe and reverence for nature, other people and the world around them. Their senses are recognised to be open to the world around them. Teaching strategies are designed to nurture and educate the senses, particularly those related to life, balance and movement.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Australian Curriculum recognises that:</td>
<td>Their desire to make sense of the world provides a platform to construct and review their learning through interactions with others, experimentation, scaffolding, explicit teaching, practice and play in the classroom and beyond.</td>
</tr>
<tr>
<td>Children have a natural curiosity about their world</td>
<td>ASCF: In the Kindergarten, through the principle of imitation teachers guide children to learn about the world experientially by working alongside adults cooking, baking, cleaning, gardening etc. They also bring stories, a morning circle of movement and music around a theme and puppet plays. Children learn literacy skills that are modelled by their teacher. Towards the end of the stage, learning becomes more explicit and skills are reinforced in a routine, rhythmical and structured manner.</td>
</tr>
<tr>
<td></td>
<td>This helps them make sense of a world that is outside their immediate experience, as they connect new knowledge with what they already know or believe.</td>
</tr>
<tr>
<td>ASCF: What they have discovered in the world becomes material for the imaginative pictures that inspire their play. As they progress through the stage children learn art and craft technologies: washing, dyeing, carding wool, spinning and knitting, creating felt toys and household/classroom items, simple bushcrafts, sanding and oiling wood. They joyfully interact with the natural environment and learn how to contribute through gardening; they observe and record weather and seasonal change, day and night sky. They feel connected to the people and environment around them and feel confident knowing that they are able to interact, learn and contribute to their environment and community.</td>
<td>This also sometimes provides an opportunity to challenge what they know or believe.</td>
</tr>
</tbody>
</table>

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3 From the age of nine children learn how to separate themselves from their experience in the world; they begin to use causal logic that introduces a new critical quality to their thinking; they begin to question the authority of their parents and the teacher.
ASCF: In self-directed play they construct their own learning optimally. Through experiential learning and interaction with the environment, children are inspired to ask both philosophical and practical questions, which extend their understanding of what they know.

The Australian Curriculum builds on the key learning outcomes as listed in the national Early Years Learning Framework. The section below highlights (in the italicised words) variations in emphasis in the Steiner approach to the key learning outcomes (The Shape of the Australian Curriculum, v2.0, December 2010, p.11, para 29):

**Children have a strong sense of identity:** They develop their identities through creative play by exploring increasingly diverse roles and transformations of identities; they work in groups with increased sensitivity and develop the capacity to reflect and harmonise their own actions in relation to others.

**Children are connected with, and contribute to, their world:** They use extended play based scenarios and imitate the qualities of care, engagement, kindness and compassion in those around them; further into the stage they model the literacy skills of the teacher in a more conscious manner.

**Children have a strong sense of wellbeing:** They engage in increasingly rich and diverse sensory experiences in exploring the wider world. They integrate gross and fine motor skills, spatial awareness, sense of balance and creative expression in joyful play, dance, creative movement and drama.

**Children are confident and involved learners:** They are empowered through play to discover learning. They imitate enthusiastically. Their exploration of the world becomes more detailed and inquiry or goal oriented. The rich pictorial language of the narrative based strategies provides a firm foundation for skills that by the end of the stage are reinforced in a structured way.

**Children are effective communicators:** They freely share play-based story scenarios, cooperative social play communication and imitate rich language patterns in verse and story. They experience increased trust and security in rhythms or patterns over time; they use more creative real or imaginary technologies in play to solve problems and enrich creative possibilities. Play is highly valued as a strategy for reinforcing the learning of communication, social and emotional skills.

In line with the Australian Curriculum, the Australian Steiner Curriculum is designed to accommodate the varied learning experiences and diverse backgrounds that children bring to school.

The Australian Curriculum for students between five and eight years of age (typically Foundation to Year 2) recognises (The Shape of the Australian Curriculum, v2.0, December 2010, p.11, para 30):

- gives priority to foundation knowledge, understanding and skills that all children are expected to develop to enhance their opportunities for continued learning.

- the importance of communication, language and building relationships.

ASCF: The strong narrative and speech components and creative play address the children’s literacy and social skills development. Children listen to stories on a daily basis, sing songs and rhymes and are able to recount the stories, first orally and then in written sentences. They work together to plan and construct their play in complex ways that build foundational social skills. They cooperate as a class in experiential learning.

- In these years, priority is given to literacy and numeracy development because these are the foundations on which further learning is built.

ASCF: Numeracy is reinforced through the use of experiential learning with concrete objects, diverse
visual and narrative strategies and rhythmic movement of number patterns. Immersion in the fertile language experience of the narrative mode of instruction provides a firm base for the children to use to reinforce literacy skills in a structured manner.

- The foundation for literacy is built primarily in English and the foundation for numeracy primarily in mathematics.

ASCF: Literacy and numeracy skills are taught in an integrated way; subject curricula are interconnected during this stage. In Class 1-2 Main Lesson Books record visual/artistic representation and written work for all Learning Areas thereby integrating literacy in each Topic.

- However, both literacy and numeracy must be reinforced and strengthened through learning in other contexts including science, history, geography and technologies.

ASCF: Science is brought through narrative/descriptive oral teaching as well as experiential learning. The teaching of technologies is undertaken through handwork and craft with connected numeracy and literacy skills— all children learn to garden, cook, knit and sew; history and geography are introduced through the telling of stories drawn from classical folklore, legends and world mythologies and the celebration of multi-cultural festivals. Experiential and arts-based learning is reinforced in a structured way in the recording of observations and experiences in both oral and written forms.

The Shape of the Australian Curriculum, v2.0, December 2010, p.11, para 31: Priority is also given to:

- motor skills development, physical activity and the development of safe and healthy personal practices through the teaching of health and physical education.
- the opportunity to develop their sensory, cognitive and affective appreciation of the world around them through exploratory and creative learning.
- the opportunity to learn a language may also be available, subject to school and curriculum authority arrangements.

The Steiner approach emphasizes the significance of lively, energetic play and robust physical activities like building, gardening or crafts and the exploration of bushland and garden. Movement is highly valued and used as a strategy for learning number sequencing and geometric forms, music, speech, and enacting stories. The beauty of the natural environment and the classroom, including the architecture, fittings, toys, and food are all planned and designed to support and enrich the students’ sensory awareness. Play is highly valued as the most effective way to encourage exploratory and creative learning; towards the end of the stage this learning is reinforced in a structured manner. Children begin to learn other languages from their Kindergarten year onwards through the singing of songs and rhymes and through games and stories.

Steiner teaching strategies in Classes One to Three

Teachers guide children in their encounter with external reality and help them to feel at home in the world. Strategies which assist teachers to meet this educational orientation include:

- rhythmic repetition to support the development of memory;
- helping children to build imaginative pictorial images;
- presenting universal concepts in picture form;
- using strong narrative content;
- focusing on art and music to engage their feelings;
- encouraging children to identify with the subject matter on an emotional level;
- providing opportunities for experiential learning;
- providing opportunities for speaking and recitation;
- valuing social, emotional and volitional learning as well as cognitive development.

5.1.2 Classes Four to Six
Physically, as the growth of the limbs and the muscular system begins to develop rapidly towards the end of this stage student’s movements often become awkward and they lose the natural gracefulness of the earlier period. Cognitively students move from imaginative consciousness and picture-styled thinking towards a growing ability to use causal logic. They demonstrate an increasing interest in exploring, appreciating and understanding the nature of the real world around them. Curriculum design and content supports students of this age to integrate and increasingly differentiate the fruit of their imaginative inner lives with that of their investigation of the world around them. Their exploration is guided towards nurturing their immediate surroundings by gardening in the school grounds. Using phenomenological methods they closely observe, characterise and map their environment: plant life, the animal kingdom, the geography of the classroom, school and local community. Attention is paid to the holistic context of the observations which are undertaken as far as possible within their natural habitat (Steiner, 1986 [1894]). By Class Six the lessons become more sophisticated and include astronomy, geology and physics (warmth, optics, acoustics, electricity and magnetism). In this way students are given a first stage training in classic empirical methods of observation. At the same time, the arts-rich teaching strategies ensure that their earlier imaginative strengths continue to mature and develop as a valued way of knowing: conceptual content is clothed in imaginative language and content; narrative strategies promote oral speech work; the stories of ancient cultures encourage them to dream into the mythological stories of the past and inspire them to represent the world around them visually in images, and in words, movement, dance (eurythmy\textsuperscript{xlix}) and other artistic creations.

### 5.1.3 Classes Seven and Eight

From formal logic, traditional psychology adopted the idea of the concept as an abstract mental construct extremely remote from all the wealth of concrete reality (Vygotsky, 1997, vol 4, p. 53; cited by Egan and Gajdamaschko, p.17).

<table>
<thead>
<tr>
<th>The following descriptors from the Australian Curriculum (v2.0, December 2010, p.11, para 32) are aligned with the Australian Steiner Curriculum (for further information see Attachment 3a, c &amp; d):</th>
</tr>
</thead>
<tbody>
<tr>
<td>They begin to understand and appreciate different points of view</td>
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<tr>
<td>They can concentrate on tasks for longer periods of time</td>
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<tr>
<td>Their thought processes become more logical and consistent</td>
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<tr>
<td>They gradually become more independent as learners</td>
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<tr>
<td>Students increasingly look for and value learning they perceive as relevant, consistent with personal goals, and/or leading to important outcomes</td>
</tr>
<tr>
<td>The transition from primary to secondary school coincides with a range of significant physical, cognitive, emotional and social changes.</td>
</tr>
<tr>
<td>Students often begin to question established conventions, practices and values.</td>
</tr>
<tr>
<td>Their interests extend well beyond their own communities and they develop concerns about wider issues.</td>
</tr>
</tbody>
</table>

Further comment: The following descriptor: “students are moving from concrete to abstract thinking” requires further explanation. The Steiner approach identifies a further transitional stage between that of concrete thinking and the abstract thinking that characterises formal operations. While it is recognised that students of this age are loosening their attachment to concrete reality and are more able to use causal logic, teaching strategies aim to use the emerging conceptual capacities in a way that harnesses them to a closer, deeper understanding of the nature of the real world around them.\textsuperscript{4} Students only form concepts in relation to embodied learning: what they are able to see and/or experience; scientific conceptual models are therefore not favoured. Teachers direct students towards observing on an experiential level the laws and principles at work in the natural world; students then reflect on what they have learnt and use this knowledge to form judgements and new questions. In this way teachers support students to find their own voice and to awaken a capacity for original thinking – they come to realise in a living way that their own process of knowing (brought about through the synthesis of their perceptions and thoughts) is aligned with the knowledge of others and that “thinking integrates world phenomena” (Steiner, 1964 [1894]).

\textsuperscript{4} The difference relates to the epistemological underpinnings of the approach. Imagination is valued as a capacity that synthesises perception and cognition (Steiner, 1964/1894); as a form of “thought-imbued” perception (Warnock, 1976, p.196) that enables the thinker-observer to penetrate more deeply into the essence of the real world.
5.1.4 Classes Nine and Ten

Knowledge in our minds is a function of the organisation of our living organism; it is not some interchangeable code we can pick up like computer data (Egan and Gajdamaschko, p.23).

The following descriptors from the Australian Curriculum (v2.0, December 2010, p.11, para 35) are aligned with the Australian Steiner Curriculum (for further information see Attachment 3a, c & d):

The middle and upper secondary years of schooling can be seen as a period of transition to adulthood. Students have a clearer sense of their strengths, interests and goals. They begin to see themselves as active players in community life and are often concerned about major social and environmental issues and the ethical implications of human activity and knowledge.

Further comment on the Steiner approach:

Students develop greater clarity of thought and an increasing ability to form balanced judgments. They experience real selfhood for the first time; the acuteness of their new level of self-awareness and self-criticism often leads them to hide their new persona carefully and to use fashions as masks. As forces of growth penetrate the metabolic-limb system sexual development takes place. The accompanying hormonal changes introduce disequilibrium: as the will is not yet strong enough to direct their emotions this is the age of extremes and polarities: students swing between the past and the future; the old and the new; independence and group security. Strategies which teachers use to meet the developmental needs of this stage include (Rawson, 2000; Lievegoed, 2005; Mitchell & Clouder, eds, 2001):

- farm and work experience and service learning;
- teamwork; collaboration and conflict resolution;
- independent student research and self-motivated interest and study;
- the translation of theory into practice;
- ‘hands-on’ experience and technical expertise in the arts and technology;
- structured logical thinking and causal deductions;
- imaginative, creative and original thinking;
- understanding that the development of the arts and sciences reflect historical changes in cultural consciousness;
- understanding that artists and scientists express worldviews in their works.

6. Elements of the Australian Steiner Curriculum

6.1 Educational outcomes

The Australian Steiner Curriculum endorses the propositions set out in *The Shape of the Australian Curriculum*, v2.0 (December 2010, p.11, from para 53 to 76).

6.1.1 Rationale of the Australian Steiner curriculum methodology

This paper now moves away from the strategy of point-by-point response to *The Shape of the Australian Curriculum*, v2.0, December 2010) and aims to identify the way in which the Australian Steiner Curriculum strives to meet the goals and outcomes of the Melbourne Declaration. As Steiner education is built on an overarching curriculum framework, the rationale of the curriculum includes an emphasis on pedagogical theory, and method and methodology: *how the educational goals and outcomes are met forms an integral part of the educational approach.* As outlined above Steiner education values the guiding propositions that are set out in *The Shape of the Australian Curriculum*, v2.0 (December 2010), however the methodology that is followed to meet these goals and outcomes is also highly prized. In particular Steiner methodology works towards the implementation of a curriculum (as outlined by the Australian Curriculum Coalition, *Letter to the Minister, Common View on the Australian Curriculum*, 22 Oct, 2010) that:

- includes and integrates general capabilities and cross curriculum perspectives;
- provides for both breadth and depth;
- while valuing the discipline traditions that support the main subject areas, also provides for interdisciplinary integration of curriculum content;
- encompasses an educational futures orientation, socio-emotional learning, moral/ethical development and creativity.

While the Steiner education movement has experience in trialling and researching the application of these values, Steiner educators are currently embarking on a new chapter of evidence based research which includes the testing of foundational tenets in the context of the Australian and global situation. The Australian curriculum initiative offers Steiner education a welcome opportunity for synergistic collaboration in relation to research which informs the principles embedded in the Melbourne Declaration.

Since its early period of development in the late 19th and early 20th century Steiner pedagogy continues to strive towards the building of a conceptual bridge to connect the fields of science, art and the humanities, morality and spirituality (1923/2004). The approach is therefore aligned with the movement that aims to meet the needs of the global world (Lovat & Smith, 1995; Lovat et al., 2009) where scientists increasingly are raising questions and addressing realities that take spiritual experience into account. Steiner educational philosophy resonates strongly with research in the areas of creativity, imaginative education (Egan, 2007; Nielsen, 2004), socio-emotional learning (Clouder, 2008), and with contemporary educational theories that emphasize care and happiness (Noddings, 1992, 2003), the role of the arts in learning (Eisner, 2003; 2008), the importance of spirituality (Glazer, 1999; de Sousa, 2009) and values education (Lovat et al., 2009). Gidley (2009) identifies four core values which she describes as the ‘pedagogies of love, life, wisdom and voice.’ In her view these pedagogies best characterise the discussion of educational futures that are oriented towards the development of further stages of thinking and learning.

The table below illustrates the alignment between the national curriculum guidelines and their application in the context of the Australian Steiner curriculum. References taken from Gidley (2009) provide further academic grounding for the Steiner perspectives. The four main categories of the table (knowledge, understanding, skills and active and informed citizens) will be used in the curriculum design as templates...
for content description and elaboration. The categories of the table form a vital link between this paper and the Steiner subject curriculum papers.

6.1.2 Alignment of Steiner educational outcomes with the Australian curriculum

<table>
<thead>
<tr>
<th>Australian curriculum guidelines</th>
<th>Steiner Curriculum guidelines</th>
<th>Principles of Steiner education</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKILLS</td>
<td>SKILLS</td>
<td>Pedagogy of life</td>
</tr>
<tr>
<td>UNDERSTANDING</td>
<td>UNDERSTANDING</td>
<td>Pedagogy of love</td>
</tr>
<tr>
<td>Confident and creative individuals</td>
<td>Confident and creative individuals</td>
<td>Warmth, care, relationships, community, sense of belonging, reverence, connectedness.</td>
</tr>
<tr>
<td>HEAD</td>
<td>HEAD</td>
<td>LIGHT of WISDOM</td>
</tr>
<tr>
<td>KNOWLEDGE</td>
<td>KNOWLEDGE</td>
<td>Pedagogy of wisdom</td>
</tr>
<tr>
<td>Successful Learners</td>
<td>Powerful Learners</td>
<td>Multi-modal learning modes, multiple intelligences, versatility, creativity and complexity.</td>
</tr>
<tr>
<td>ACTIVE and INFORMED CITIZENS</td>
<td>ACTIVE and INFORMED CITIZENS</td>
<td>Pedagogy of voice and language</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students finding their own authentic voice, integration, balance through deep knowing.</td>
</tr>
</tbody>
</table>

6.2 Curriculum content

6.2.1 Learning area skills, understanding and knowledge

The Steiner approach values the following pedagogical principles:

- the importance of searching for the guiding light of wisdom in research related to the development of cognitive skills; the qualities of complexity, creativity, resilience/flexibility and multi-perspectivality are emphasised.

- the qualities of reverence, connectedness, belonging and caring relationships associated with pedagogy of love are highly valued.

- ‘Imagination’, as the signature feature of the educational approach, is understood to contribute towards bringing learning to life. The associated qualities of dynamic movement, discovery and integrality inform the teaching methods.

- the education strives towards a deep knowledge approach that uses balanced and integrated learning strategies. Students are encouraged to find their own authentic and embodied voice, and to become ‘active and informed citizens’ through the development of their moral capacities.

These pedagogical principles are embedded in the curriculum design elements as illustrated by the choice of categories for the templates. In order to lay stress on the futures perspective of the education and on the foundational nature of the orientation towards moral development, a fourth category has been placed beneath the three columns of the categories (used in the table above) to depict the further
unfolding of moral capacities that come to fruition when Steiner graduates leave school and become ‘active and informed citizens’. As the seeds that have been planted in the early years learning are nurtured through various stages of growth until they come to maturity in adulthood, the fourth row represents the foundational grounding that is provided through the holistic and integrated nature of the curriculum and the attention that is paid to aligning the scope and sequence of lesson content with age appropriate learning.

<table>
<thead>
<tr>
<th>SKILLS</th>
<th>UNDERSTANDING</th>
<th>KNOWLEDGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hands</td>
<td>Heart</td>
<td>Head</td>
</tr>
<tr>
<td>Active learning</td>
<td>Creative and confident individuals</td>
<td>Powerful learners</td>
</tr>
<tr>
<td>Bringing learning to life</td>
<td>Love, reverence, connectedness, caring relationships</td>
<td>Light of wisdom, creativity, flexibility, complexity</td>
</tr>
</tbody>
</table>

FUTURE MORAL CAPACITY: ACTIVE and INFORMED CITIZENS

6.2.2 Deep knowledge

It is important to note that Steiner teachers often reverse the usual sequence of lesson structure: Whereas many teachers begin a class with the definition of a new concept, the Steiner method, rooted in phenomenology\(^\text{v}\) and Goethean science style of observation \(^\text{vi}\) starts with a description of the outer qualities of the phenomenon or theory that is being introduced, moves into characterisation (of the less obvious aspects), and finally focuses on the ‘unveiling of the essence’ which informs the definition, conceptual theory or phenomenon. Active skills learning takes place first, understanding or the weighing up and evaluating of this experiential learning follows and cognitive awakening is recognised to be the final stage when students ‘discover’ the underlying conceptual perspectives (Bruner, 1986, 1990). Often this stage is characterised by the ‘aha moment’ or ‘light-bulb flash’ that accompanies insightful learning. Although the steps follow each other in a progressive sequence they each nevertheless still incorporate elements of the other two steps: while the skills stage aims to include active and hands-on experiences\(^\text{vii}\), teachers direct the learning towards awakening the feeling life of students and igniting their intellectual curiosity during the first step as well.

Active skills learning → weighing up, evaluating & understanding → cognitive awakening

Step one: active skills learning – the descriptive phase

Teachers begin lessons with activities that include movement and experiential learning. Sometimes the skills are quietly subtle (like the active but still observation of the features of a plant in a botany lesson). In general the skills-related strategies are also directed towards more hidden inner abilities:

a) The descriptive stage appeals to somatic and sense-rich perception (several senses are identified); and
b) the nurturing of aesthetic sensibility\(^\text{viii}\) whereby the emotional life is awakened, e.g. by telling a short anecdote to help the students warm to the topic at hand;
c) students are encouraged to concentrate and to undertake willed-thinking\(^\text{lix}\), to put energy and willpower into directing their thinking and observation of phenomena, e.g. the teacher may pose a puzzle or ask an intriguing question that is not immediately answered.

Step two: understanding and characterisation

The second step strives to deepen the emotional and cognitive response through the use of teaching methods that encourage creativity. The ability for students to undertake thought experiments\(^\text{lix}\) to create inner pictures, images and/or mental concepts and to move them about in their minds is encouraged at this point and directed towards characterising the content. The intention is for the students to wrestle with the subject, for it to live inwardly and actively so that they can individualise it and make it their own. Understanding is seen to be related to the evaluation and the weighing up of evidence. In contrast to assumptions that understand judgment to be a solely cognitive process, the Steiner educational approach conceives of this capacity as a form of ‘emotional intelligence’ (Goleman, 1998; Gardner, 1996): the forming of judgments inevitably involves the feeling-affect aspects of awareness (Steiner, [1919]; 1951), the ‘tasting’ of experience. The appeal to cultivate imagination embraces many kinds of artistic and problem solving activities and several modalities are used at this stage such as experimentation, creative writing, speech, drama, movement, music, drawing, painting, modelling and sculpture.
Step three: cognitive awakening and concept formulation

Students are now ready to move more directly into the theoretical field and to take hold of the embedded concepts that are at first hidden in the content. They are now able to solve the puzzle or to grasp the significance of the underlying perspectives in history, the theorem in mathematics, the model in science, or the deeper meaning of a piece of literature or a work of art.

Building a foundation for future moral capacity

Moving through the different steps promotes the development over time of a ‘deep knowledge’ base. Teachers consciously work the rhythm of the three steps into the planning and review of classroom lessons. This way of teaching and learning enacts a type of hermeneutic phenomenology; there is a constant spiralling between the three steps, one cycle of ‘plan/do - enact/experience – reflect/evaluate’ leads into the next circle of movement. In some lessons and subject areas it is sometimes more appropriate to move through the steps in the more conventional manner where conceptual learning comes first: the teacher artistically improvises and selects the steps most suitable for the learning situation and then critically reviews them with awareness in an ongoing and scientifically reflective way.

Emphasis is placed on cognitive skills and conceptual learning, as well as aesthetic training, and the ‘life-ly’ disciplining of the will through skills development. Students are offered the opportunity to become powerful learners – by actively engaging in the rich methodology of the three steps the learning process is enlivened; students are able to make the concepts mobile (to move them around in their minds), to grow or transform them, and to make them their own. While the cognitive development of students is closely tied to the inner disciplining of their ‘will nature’, the constant appeal to their ‘feeling life’ through the inclusion of artistic elements in the curriculum ensures that learning encompasses the socio-emotional level as well (Clouder, 2008; Fundación Marcelino Botín, 2008; Noddings, 2003).

The underlying premise proposes that it is imperative for the moral development of students that a connection is established between thinking, feeling and willing: it is the co-ordinated and integrated development of faculties related to head, heart and hands that builds moral capacity.

This conscious interweaving assists students to become flexible in their thinking, emotionally resilient and skilled in their ability to act in the world.

<table>
<thead>
<tr>
<th>SKILLS</th>
<th>UNDERSTANDING</th>
<th>KNOWLEDGE</th>
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<tbody>
<tr>
<td>Hands</td>
<td>Heart</td>
<td>Head</td>
</tr>
<tr>
<td>Willing</td>
<td>Feeling</td>
<td>Thinking</td>
</tr>
<tr>
<td>Active learning</td>
<td>Creative and confident</td>
<td>Powerful learners</td>
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<td></td>
<td>individuals</td>
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<table>
<thead>
<tr>
<th>LEARNING EXPERIENCES</th>
<th>MULTI-MODAL ARTISTIC ACTIVITIES</th>
<th>DEEP KNOWLEDGE</th>
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<tr>
<td></td>
<td>FUTURE MORAL CAPACITY: ACTIVE and INFORMED CITIZENS</td>
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</table>

Steiner methodology contributes towards the building of student capacity for developing deep knowledge and in this way towards the attainment of high performance levels – as well as student involvement and enjoyment of the learning process. Whereas ‘International comparisons of educational performance and engagement suggest that Australians are high performers, but that they do not particularly like the learning in which they perform well’ (The Shape of the Australian Curriculum’, 2009, p.11) surveys of Steiner graduates indicate that they not only perform well but that they enjoy their learning (Dahlin, 2007; Attachment 3).

Imagination is more important than knowledge. For knowledge is limited to all we now know and understand, while imagination embraces the entire world, and all there ever will be to know and understand. … Logic will get you from A to B. Imagination will take you everywhere (Albert Einstein).
6.2.3 General capabilities

The Steiner national curriculum fully endorses the guidelines set out in ‘The Shape of the Australian Curriculum’ paper (ACARA, May 2009, pp.11-13). The following general capabilities: ‘Thinking skills; Creativity; Self-management; Teamwork; Intercultural understanding; Ethical behaviour; Social competence’ are thoroughly integrated into teaching practices. Description of achievement standards for each year level and subject area include discussion relating to the general capabilities. Further detail in relation to the areas of Literacy, Numeracy, and Information and communication technology (ICT) in particular is provided in Attachments 2, & 4-6.

6.2.4 Cross-curriculum perspectives

The Australian Steiner curriculum strongly supports the inclusion of the cross-curriculum perspectives set out in The Shape of the Australian Curriculum, v2.0 (December, 2010, p.20, para 73 - 74) and agrees that ‘each of these perspectives will be represented in learning areas in ways appropriate to that area’. The curriculum documents are explicit on how the perspectives are to be dealt with in each learning area and how links can be made between learning areas. Description of achievement standards for each year level and subject area include discussion relating to the cross-curriculum perspectives.

6.2.5 Development of curriculum on a year-by-year or bands-of-school-years basis

In response to The Shape of the Australian Curriculum, v2.0 (December, 2010, p. 21, para 75 - 76), the Australian Steiner curriculum notes that the foundation of Steiner education is built on underlying pedagogical theory as well as researched based evidence. The educational indications relate not only to the sequence of learning in English and mathematics but in science and history as well.

The greater flexibility provided by the description of skills by bands of years is helpful in the Steiner context and is more likely to yield points of similarity between the Australian Curriculum and the Steiner one.

6.6.6 Achievement standards

In response to The Shape of the Australian Curriculum, v2.0 (December, 2010, pp. 21 - 22, para 77 – 83) the Australian Steiner curriculum supports the propositions as outlined and notes the following further guidelines which inform the Steiner curriculum in relation to achievement standards:

1. While ‘achievement standards provide an expectation of the quality of learning students should typically demonstrate by a particular point in their schooling, that is, the extent of their knowledge, the depth of their understanding and the sophistication of their skills’ (para 77), Steiner education also recognises that it may not be possible to demonstrate many valuable aspects of student learning that ‘like buried seeds’ may only become manifest many years later.

2. There are certain key points of divergence between the Australian curriculum and the Australian Steiner curriculum in the sequence of achievement standards, Kindergarten to Year 10, which ‘provides teachers with a framework of growth and development in each of the learning areas’ (para 78; see attachments 3 and 4 for further discussion on the noted divergences).

3. The development of achievement standards which ‘take into account what is known from research about the development of student learning in the different learning areas’ (para 81) includes reference to the pedagogical indications which inform Steiner education.

4. The child study forms a core characteristic of practitioner research in Steiner schools and provides the means for regular and ongoing research relating to students’ achievement levels and ways to improve students’ learning. (For further information see Attachments 2).

5. Practitioner research strives towards refining quantitative, qualitative and descriptive forms of reporting and a balancing of summative and formative types of assessment.

6. Ongoing curriculum research enables the sharing and comparison of achievement standards and content descriptions between schools, particularly as these relate to the different learning areas.
7. The assessment procedures that inform achievement standards rely on teacher observations and records of student work and activities (on physical-skills, socio-emotional and cognitive levels).
8. The assessment processes are, wherever possible, integrated into everyday classroom routines.
9. The atmosphere of social harmony and co-operation is not compromised: assessment processes are non-invasive and non-competitive.
10. Parents are consulted in relation to child studies and their input and observations are valued. Reporting to parents is regular, detailed and descriptive, qualitative reporting supplements quantitative forms. (For a detailed discussion of the assessment principles see Attachment 7).

7. Teaching, learning, assessing and reporting

In response to The Shape of the Australian Curriculum, v2.0 (December, 2010, pp. 22 – 24, para 84 – 94) the Australian Steiner curriculum supports the propositions as outlined in principle but notes that in general testing regimes are not aligned to the educational approach. Teachers will carry out the testing required by NAPLAN and NAP in a manner that is as non-invasive and non-competitive as possible. Steiner education is committed to providing students and parents with regular high quality feedback about the learning that is taking place in the classroom.

8. Implementation of the Australian Steiner Curriculum

The ASCF team relies on the Board of ACARA for the release of information relating to this submission such as the National Curriculum subject papers and the curriculum design templates which inform the ASCF papers. The implementation of the Steiner curriculum is dependent on the guidelines and recognition process set out by the ACARA Board. Steiner Education Australia (SEA) will continue to play a pivotal role in overseeing the ASCF team, in consulting extensively with Steiner schools in Australia and in the negotiations with the ACARA Board.

SEA will work together with ACARA and state and territory education authorities to develop implementation plans. Steiner Education recognises that:

State and territory school and curriculum authorities are responsible for the implementation of the Australian Curriculum. At the national level, the Australian Institute for Teaching and School Leadership (AITSL) and Education Services Australia (ESA) will play a key role supporting state and territory authorities (The Shape of the Australian Curriculum, v2.0, December, 2010, p.25, para 101).

9. Quality assurance and review of the Australian Steiner Curriculum

The Australian Steiner Curriculum is subject to ongoing growth and review and follows the guidelines set out in The Shape of the Australian Curriculum, v2.0 (December 2010, p. 26, para 101 – 104) in relation to quality assurance and review.
An Overview of Strategies used by Steiner Education to attain the Melbourne Goals

### Successful Learners

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<tr>
<th>GLOBAL PRINCIPLES</th>
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<td><strong>GLOBAL PRINCIPLES</strong></td>
<td><strong>CURRICULUM VOL 1: EDUCATIONAL FOUNDATIONS</strong></td>
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<td><strong>SUCCESSFUL LEARNERS</strong></td>
<td><strong>SELF-MANAGEMENT &amp; TEAMWORK</strong></td>
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<td></td>
<td>Students take responsibility for their own learning: Main Lesson curriculum ensures daily practice and integration of cognitive, emotional and physical abilities (of thinking, feeling and willing).</td>
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<td><strong>PROFICIENCY IN LITERACY, NUMERACY &amp; ICT SKILLS</strong></td>
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<td>The curriculum provides a firm foundation, and a highly valued and value-rich vehicle for literacy, numeracy and ICT skills. Strong narrative teaching methods including oral speech work; rhythm and routine are built into the story-based framework and strategies.</td>
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<td><strong>THINKING SKILLS</strong></td>
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<td>The Phenomenological Approach uses ‘deep knowledge’ strategies for example experiential and embodied learning; appeal to sentient and emotional involvement; active observation and evaluation of evidence.</td>
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<td><strong>FUNDAMENTAL DISCIPLINES VALUED</strong></td>
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<td>While the curriculum is integrated and interdisciplinary, the conventions of the main disciplines are highly valued.</td>
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<td><strong>CREATIVE, INNOVATIVE &amp; RESOURCEFUL LEARNERS</strong></td>
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<td>Students plan activities independently: They look after their possessions, undertake classroom chores as habitual tasks, and work independently. Technological skillfulness is promoted in gardening, arts and crafts.</td>
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<td><strong>EFFECTIVE COMMUNICATION SKILLS</strong></td>
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<td>Curriculum design and content aims to support students to find their place in the world: Rich narrative strategies promote oral and listening skills; the values rich content supports meaning and connection.</td>
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<td><strong>STUDENTS REACH FULL POTENTIAL</strong></td>
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<td>The unfolding of individual potential is a core element of the approach</td>
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<th>HOLISTIC PRINCIPLES</th>
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<td><strong>HOLISTIC PRINCIPLES</strong></td>
<td><strong>SUCCESSFUL LEARNERS</strong></td>
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<td><strong>CREATIVITY</strong></td>
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<td>The wide ranging multi-modal and arts based strategies encourage creativity and support the growth of self-worth. Students are guided towards managing their own emotional, spiritual and physical well-being.</td>
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<td><strong>OPTIMISM</strong></td>
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<td>Outdoor adventure camps encourage confidence, openness to new and challenging experiences.</td>
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<td><strong>HONESTY, RESILIENCE, EMPATHY</strong></td>
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<td>Meaningful teacher-student relationships are established through teacher looping. Training in aesthetic sensibility and imagination promotes empathic relationships. Truth is the motif for high school learning.</td>
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<td><strong>TERTIARY STUDIES AND VOCATION</strong></td>
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<td>Students are guided to identify their chosen vocation; they follow tertiary education and/or vocational qualifications and studies show they find fulfilling vocations (see Attachment 1).</td>
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<td><strong>HEALTHY RELATIONSHIPS</strong></td>
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<td>Valuing of community is enacted in school community lifestyle: students participate in cultural and seasonal festivals and fairs; adults and teachers participate in lifelong learning, onsite workshops and PD programs.</td>
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<td><strong>RESPONSIBILITY</strong></td>
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<td>A positive work ethic is cultivated through daily tasks, rhythms and main lesson repetition. Love of learning is instilled; independent research skills are encouraged e.g. Year 12 extended individual research project</td>
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### Active & Informed Citizens

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<th>SOCIAL SKILLS</th>
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<tr>
<td><strong>SOCIAL SKILLS</strong></td>
<td><strong>ETHICAL BEHAVIOUR</strong></td>
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<td>Values rich curriculum/teaching methods; curriculum designed to build connections between self and world.</td>
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<td><strong>SOCIAL COMPETENCE</strong></td>
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<td>Daily rhythmic activities include team activities, games and group work; non-competitive orientation, cooperative learning and harmonious atmosphere encouraged; schools practice non-elitism and inclusivity.</td>
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<td><strong>INTERCULTURAL UNDERSTANDING</strong></td>
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<td>Respect for Australia’s government, history and diverse cultures embedded in curriculum content.</td>
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<td><strong>Value Indigenous cultures and work towards reconciliation</strong></td>
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<td>Narrative mode of teaching is richly endowed with intercultural, indigenous, Asian and Australian content. Relationships are fostered with indigenous communities.</td>
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<td><strong>RELATE TO ASIAN CULTURE</strong></td>
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<td>Foreign language teaching begins in primary school, includes Asian languages.</td>
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<td><strong>COMMITMENT TO DEMOCRACY, EQUITY and JUSTICE</strong></td>
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<td>These values and civic responsibility are deeply respected; students, staff and parents participate in across school conflict resolution strategies.</td>
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<td><strong>SUSTAINABILITY: RESPONSIBLE LOCAL and GLOBAL CITIZENS</strong></td>
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<td>Sustainability is highly valued: biodynamic gardening, natural materials, ecological practices. When students develop their individual potential, society is enriched; values of peace and harmony are implicit in the holistic orientation.</td>
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Socio-emotional: A concept related to “well-rounded education” based on the premise that “a process of intellectual and academic training should go hand in hand with healthy physical, psychological and social growth in order to achieve a sufficient level of well-being, balance, and personal and social contentment” (Clouder, 2008).

Age-appropriate learning: is based on a developmental approach to educating children that suggests they will best respond to learning that matches their age and stage. The concept is related to that of age-readiness that suggests that children will learn more effectively when they are ready for the level of learning that is being introduced. The Steiner approach carries this argument further and proposes that if a learning level is introduced too early this can have a harmful effect on the child. Furthermore if the imaginative capacities are not educated in early childhood the opportunity is missed and this is more difficult to correct this later. By way of contrast, research shows that later literacy learning does not impede academic progress (Bjorkland and Green, 1995; see attachment 3b). “If, however, the things we learn are to live and grow with us, we must learn them at the right age” (Steiner, GA 342, p.67).

Optimal points: refer to thresholds in development – stages when students reach a new level of ability and the timing is right to introduce more complex content and skills.

Creativity: The ability to create new works; to be original. In Steiner education creativity is closely associated with Imagination (see endnote vi below) and with the arts-based (endnote v below) learning strategies, particularly in relation to creative responses – to respond to new material in an individual, artistic and original way – an assessment strategy that reflects the way in which a child has grasped and ‘digested’ learning content.

Arts-based strategies and teaching methods: Refers to both teaching as an art and the setting of artistic tasks for students to undertake. The art of teaching uses the language and tools of the discipline of art as a mode of teaching. In the Steiner context this means paying attention to rhythm, sensitivity to mood and atmosphere, being perceptive of the needs and responses of children, creating a beautiful classroom environment, structuring and delivering lesson material in an artistic and creative manner, etc.

Multi-modal: Using several different mediums of instruction and setting tasks that require responses that employ different media. Mostly arts-based media are preferred but from Class 8 upwards multi-modal includes electronic, digital and film media.

The Main Lesson: is an intensive block lesson that takes up the first timetable slot each day and lasts for 3 to 4 weeks. This enables the teacher and students to move deeply into a subject area. The three step learning method outlined in section 6 is particularly fruitful when used in a Main Lesson context which allows for daily review. (Note: the three steps do not necessarily refer to a 3 day rhythm).

Practice Lessons: All other lessons that are not Main Lessons. These lessons take place usually in the timetable slots after the main lesson. They are used to practice and reinforce knowledge, skills and understanding introduced in the main lessons, as well as for other subject area lessons. Ideally the late morning and early afternoon are allocated to arts-based lessons and the later afternoon to games and sports, dancing, eurythmy, etc.

Morning circle: The term used in the Primary school for rhythmic activities and games that precede the main lesson.

Deep learning: Learning for meaning, understanding, complexity and originality. Related to “deep knowledge” – see note lvii below.

Social consciousness: The term is related to socio-emotional learning (note i above); the development of social skills and in particular awareness and sensitivity to social issues and the needs and concerns of others.

Waldorf: The first Steiner school was started for the children of the employees of the Waldorf – Astoria cigarette factory and the name has been retained in many Steiner schools particularly in Germany and Europe. Steiner schools are sometimes referred to as Steiner-Waldorf schools.

Holistic education: the art of cultivating and integrating the physiological, psycho-emotional and ethical-spiritual dimensions of the developing child.

Phenomenological methodology: A philosophical teaching method that draws on the “lived experience” (van Manen, 2007) of students; in Steiner schools teachers use a form of Goethean observation to guide the students to observe a phenomenon both objectively through close attention to the physical properties
of the object or phenomenon (size, number, measurement) and subjectively by dreaming into the life and soul qualities –
by dreaming into the soul qualities (gesture, colour, shape, tone, relational aspects); a further stage integrates these observations and tries to discern the underlying conceptual content. See notes xxxvi, lli, and liv.

sv Principle of rhythm and balance in teaching: an important part of the art of teaching. Rhythm is also valued because of its association with life-giving processes. Steiner emphasised the importance of breathing – a concept which is explained in Attachment 2.

svi Comprehensive: A curriculum principle that values the inclusion of a wide range of subjects and delays subject specialisation, in line with the Liberal Arts tradition. Note: the word in this context does not relate to the unstreamed intake of students for schools that are called comprehensive schools in some countries.

svii Humanist: Interest in the study, philosophy, or practice that focuses on human values and concerns.

sviii Strongly willed or concentrated thinking: The Faculty of the Will in Steiner philosophy (1894/1964) refers to the full range of motivational behaviours from drives, instincts and desires to more refined moral impulses. Steiner education suggests that the Will as a psychological function is associated physiologically with the metabolic-limb system (see attachment 3a). As skills learning inevitably uses the limb system, in this way ‘the Will’ is also related to skills learning and to physical activities. The use of the word ‘behavioural’ does not have the meaning that is applied in behavioural psychology.

sx Imitation: Children learn mainly through imitation in the early years but the principle continues to apply until age 9. Babies and young children are characterised as being like ‘one large sense organ’ because they absorb their environment (like a sponge) and do not have a screening device to shut out harmful influences. What is taken in becomes formative in both a physiological and psychological sense (Schoorel, 2004; Lievegoed, 2005). (See attachments 2 and 3).

sx Imagination: is understood to be a capacity that can be developed through phenomenological (Goethean-style) observation (notes xiv and liv) and arts training. In adults Imagination is understood to develop artistic inspiration and spiritual insights; in children imagination refers to a capacity to be creative in play and learning and to form inner mental images (these do not have to be visual).

sx Intellectual abstraction: Steiner criticised intellectual thinking that becomes abstracted to the extent of losing connection with the concrete world (1894/1964). In Steiner pedagogy theory building is based on observations of the real world rather than the theorised or conceptualised world. In this regard his thinking is aligned with that of Vygotsky. “This dry, empty, grey abstraction inevitably strives to reduce content to zero because the more general, the more empty the concept becomes ....” (Vygotsky, 1997, vol 4, p.53; cited by Egan and Gajdamaschko, p.17).

sxii Fostering of the feeling life: The feeling faculty can be understood as the emotional component of the soul or self (see attachment 2). The verb fostering denotes the gesture of caring and nurturing that is needed for the development of aesthetic awareness, sentience, sensibility and the senses in general. See note xi, xli, lv.

sxiv Authentic voice: As used by Gidley, authentic voice relates to the capacity for students to express themselves, to practice speaking and to value silence; it is understood to represent maturity and fulfillment in relation to self-development. “In summary, an authentic pedagogical voice may balance the inauthenticity of ‘voice’-mail, “chat”-rooms and “talking” computers. Educators carry a developmental— even evolutionary—responsibility through our choice of words, our tone of voice, the timing of our silences, our authentic presence and how well we enable children to express theirs” (Gidley, 2009). See notes ii, xxxii, xxv.

sxv Empirical-scientific observation: A traditional scientific approach that suggests that theories should be based on observations of the world rather than on intuition, faith, reasoning, or appeals to authority. The Oxford English Dictionary definition of scientific method is: “a method of procedure that has characterized natural science since the 17th century, consisting in systematic observation, measurement, and experiment, and the formulation, testing, and modification of hypotheses."
Looping refers to the practice of one teacher staying with the same class for more than one year; in Steiner schools ideally teachers stay with their class through the middle period of childhood (7 to 14 years).

Narrative strategies: Particularly in the primary school, main lessons draw on mythological content, teachers tell stories on a daily basis; students in turn practice retelling and then writing and illustrating the stories. Narratives are the source of learning in the humanities, literacy and the natural sciences. See attachment 3c.

Distributed leadership: “...how leadership practice is distributed among formal and informal leaders. ...it is emergent property of a group or network of individuals in which group members pool their expertise” (Harris, 2005 pp. 163-164; in Davies, 2005). Traditionally in Steiner schools a ‘College of teachers’ oversees educational administration, teacher research and professional development, child development and curriculum planning, implementation and review. “It is this width of interest which permeates the college meetings ...and gives them atmosphere ...a psychological mood prevails throughout and these college meetings then really become a school based on the study of a deep psychology (Steiner, Human Values in Education, p.100).

Sustainable living: is a lifestyle that attempts to reduce an individual’s or society’s use of the Earth’s natural resources and his/her own resources. See note below for ecological literacy.

Biodynamic gardening: “Biodynamics is a regenerative agriculture, holistic in approach and practice, through which the farmer and gardener bring the substances and forces of nature into a quality and sustainable production.” http://www.biodynamics.net.au/

Life-long learning: is the continuous building of skills and knowledge throughout the life of an individual.

Steiner was an early exponent of the need for ongoing learning through life and from life.

Complexity, flexibility, vitality: Complexity is one of the features identified by Gidley (2009) as characterising postformal styles of thinking. Gidley suggests that formal thinking limits the cultivation of other ways of knowing in several ways: “They educate for the past, for forms of consciousness that are becoming outmoded and are no longer adequate for the complexity of 21st century postmodern life on an ailing planet” (Gidley, 2007b; Giroux, 1999/2005; Miller, 1993; Morin, 2001; Orr, 1994). Flexibility and vitality are two further features that characterise Imagination: “By contrast, postformal pedagogies that foreground conceptual imagination can be forces for conceptual vitality. Educating with conceptual vitality allows concepts to breathe and grow with children, so they evolve to meet children’s developmental potential. This lays foundations for flexible, complex, process-oriented thinking and a smooth transition to postformal–integral–planetary consciousness at the appropriate developmental moment (Gidley, 2009).

Integrity: (see note xxvi above). The term used by Jean Gebser (1985) to describe the new consciousness. Ken Wilber has adopted the term and popularised it. Integrity relates to wholeness and the need to adopt a global perspective. According to Gebser, awareness is characterised by “Origin” which is “ever-present” and integral. He introduced the concept of presentation which means to make something present through transparency. An aspect of integral awareness is the presentation, or “making present”, of the various structures of awareness (Gebser, 1985, p.xxvii).

Pluralism/multiculturalism: Taking a wide range of viewpoints into account; listening to the ‘voices’ and points of view of people from all cultures. Two further characteristics cited by Gidley (2009) of the new type of consciousness, of postformal and imaginative styles of thinking (see notes xxvii and xxviii above). An ‘integral’ view of the world is one that takes pluralism and multiculturalism into account. Integrity is also characterised by the word “aperspectival” which “conveys our attempt to deal with wholeness” (Gebser, 1985, p.3).

Evolution of culture and consciousness: The view that humanity has evolved through various cultural periods that are characterised by different types of consciousness.

Phenomenological process of discovery learning: (See note liii below on Phenomenology and note xiv above on phenomenological methodology). The phenomenological methodology used in Steiner education is similar to that originally described by Jerome Bruner as discovery learning: “Discovery learning is an inquiry-based, constructivist learning theory that takes place in problem solving situations where the learner draws on his or her own past experience and existing knowledge to discover facts and relationships and new truths to be learned. Students interact with the world by exploring and manipulating objects, wrestling with questions and controversies, or performing experiments. As a result, students may be more likely to remember concepts and knowledge discovered on their own (in contrast to a transmissionist model). Models that are based upon discovery learning model include: guided discovery, problem-based learning, simulation-based learning, case-based learning, incidental learning, among others.”
However the context and application of the method is more extensive and incorporates the particular emphasis that the Steiner approach places on Goethean-style observation (see note lixiv below).

**Slow knowledge:** The worldview inherent in slow knowledge (David Orr) suggests that “wisdom, not cleverness, is the proper aim of all true learning” and the ‘getting of Wisdom’ takes time. Orr identifies problems associated with “too much fast knowledge": careless application of knowledge; too much irrelevant knowledge; the difficulty of assimilation, retrieval, and application; lack of compassion and good judgment; rising volume of errors caused by malfeasance and inappropriate knowledge.

http://www.learning-theories.com/discovery-learning-bruner.html

**Pedagogy:** is the art and science of teaching. The term generally refers to strategies of instruction, or a style of instruction; the “method and practice of teaching, especially as an academic subject or theoretical concept.”

http://oxforddictionaries.com

Steiner pedagogy is based on Rudolf Steiner’s philosophical worldview also known as anthroposophy (anthro – human; Sophia – love of wisdom = love of the wisdom of humanity).

**Experiential and embodied learning:** Experiential learning is the process of making meaning from direct experience; it involves an immediate encounter with the phenomenon rather than merely thinking about it; it draws on participatory awareness and sense-based knowing. Experiential learning has been popularised by David Kolb who has drawn on constructivist theories and the work of John Dewey, Kurt Lewin and Jean Piaget. The Steiner approach differs from Kolb’s model instead of “abstract conceptualising” (the 4th process in his cycle) students are guided towards “discovering the essential nature and properties” and/or the “embedded concept” of the phenomenon.

Embodied learning: Using the bodily senses and bodily awareness as a source of knowledge/a way of knowing. Comparable to Egan’s concept of somatic understanding (1997) and Perls’ concept of felt sense (2004).

**Ecology of the soul:** The view that the ecology of natural systems (see footnote below) is related to human beings because we are an important part of the system. We need to change on an inner level if we are to change the behaviours that are threatening the ‘ecology of natural systems’. Wilber (2000) and Slaughter (2004) suggest the change relates to a revaluing of imagination.

**Ecological literacy:** A term coined by David W. Orr: the ability to understand the natural systems that make life on earth possible; understanding the principles of organisation of ecological communities and applying the principles to create sustainable human communities (see note xxix).

**Architectural designs:** Rudolf Steiner provided indications for many fields of study (other than education) including architecture, agriculture, medicine, and the arts (see footnote xlix below for eurythmy); many Steiner schools use Steiner inspired architecture for school buildings.

**Kindergarten** – term used in place of the Foundation Year that is used in ACARA documents

**Teacher reflexivity:** see note xxviii above for distributed leadership. Steiner indications for teacher research include meditative and reflective practices strongly aligned with current discourses of teacher reflexivity and action research. He observes that the teacher’s own spiritual practices (including self-reflection) and willingness to see students in relation to body, soul and spirit is a most essential aspect of teacher education.

**Volitional learning:** Self-regulated and motivated learning. Many of the Steiner strategies are directed towards assisting the students to become self-motivated learners. See notes xviii and xix above. The arts-based and experiential modes are intended to heighten students’ motivational interest.

**Eurythmy:** an expressive art of movement created by Rudolf Steiner and Marie von Sivers that visually represents in the sounds and rhythms of speech and the tones and rhythms of music. It is a performance art that is also used for educational and curative purposes.
Pedagogies of love, life, wisdom and voice: the new pedagogies which Gidley proposes best represent the confluence of postformal education theories and Steiner’s indications for “consciousness soul” and Steiner education. The four pedagogies are used as a foundational theory for the design of the curriculum templates. See Gidley, J. (2009). Educating for Evolving Consciousness: Voicing the Emergency for Love, Life and Wisdom.

Authentic and embodied voice: see notes xxiv and xxxii to xxxv above. Here the term ‘authentic’ is associated with the term ‘embodied’ to emphasise and draw out the relationship between the concepts. The voice is authentic when it is embodied: the orientation in general strives to help students to establish their own relationship with knowledge content and to bring this to expression through their own ‘bodily’ or vocal expression. The emphasis is also placed on “voice” – as speech is understood to be an essential part of the arts-based training and a way in which language and ‘the Word’ can be brought to life.

Phenomenology: The study of lived experience. See notes xiv, lii, liv and lixi.

Goethean science style of observation: Characterised by practice and rigour, Goethean style observation requires quiet attentiveness. Like traditional scientific-empirical methods objectivity and accuracy are highly prized; unlike them subjectivity is also valued (and no epistemological conflict between them is perceived). Students are encouraged to develop sensual and emotional awareness as valid sources of knowledge and to pay attention to the connections and relations of the parts to the whole in the phenomena they are exploring. See Attachment 2, notes xiv, xxxvi, liv and Glasby.

Hands-on experiences: A term that became popular in the 1960s and has been further developed in constructivist methodologies that build on the premise that children construct their own understandings of the world. “Hands-on” reinforces the nature of the experiential modes of learning – students learn by doing. In many instances students literally learn by using their hands: in arts and crafts lessons, when learning technological skills (woodwork, weaving, spinning, sewing, etc.), or when manipulating objects in natural science lessons (plants, rocks, insects, water, magnetic fields) and equipment (rulers, balances, test tubes, thermometers, telescopes). In the Steiner context hands-on learning implies a total learning experience that is experimental and structured. Students explore a phenomenon and/or plan a project, put it into motion, complete it and then explain it. The learning requires scaffolding to be provided by the teacher in the form of materials, environment and steps and method, so as to increase the students’ problem-solving abilities.

http://www.ncrel.org/sdrs/areas/issues/content/cntareas/science/eric/eric-1.htm

Aesthetic sensibility: the quality of being able to appreciate and respond to complex emotional or aesthetic influences; sensitivity. http://oxforddictionaries.com The relationship between feelings and art is reinforced in this definition. See notes xiv, lii, liv, and lix above.

Willed-thinking: see notes xviii, xix, and xlviii above

Thought experiments: a mental exercise which explores the potential consequences of a hypothesis, theory or principle. Used in this context it conveys the importance of helping students to be able to move images and thoughts about in their minds – to be flexible and resilient in their image making and thinking.

Deep knowledge: “Knowledge is deep when it concerns the central ideas of a topic or discipline, which are judged to be crucial to it. Deep knowledge involves establishing relatively complex connections to those central concepts. Knowledge is shallow, thin or superficial when it is not connected with significant concepts or central ideas of a topic or discipline, and is dealt with only in an algorithmic or procedural fashion. Knowledge is also shallow when, important, central ideas have been trivialised by the teacher or students, or when it is presented as non-problematic. This superficiality can be due, in part, to instructional strategies: for example when a teacher covers large numbers of fragmented ideas and bits of information that are unconnected to other knowledge.” (see note x above)


Hermeneutic phenomenology: Hermeneutics is the study of the theory and practice of interpretation of written texts; as a methodology it resonates with the holistic nature of Steiner education – the hermeneutic circle refers to the method of understanding the text as a whole by referring to the individual parts and of understanding the parts by referring to the whole. Phenomenology is a philosophy that explores the nature of lived experience (van Manen, 2007). Rudolf Steiner was greatly influenced by his teacher Franz Brentano and by Goethe. Steiner described Goethe’s scientific method as a phenomenological – it is Steiner’s adaptation of Goethe’s method that is used as the basis for the teaching methodology. It is interesting to note that Husserl is recognised to be the founder of phenomenology – he too was a pupil of Franz Brentano and greatly influenced by him. See notes xiv, and lii.

Will nature: see notes xviii, xix, and xlviii above
Feeling life: see note xxiii, xi, xlii and lv

Child study: The practice in Steiner schools where a team of teachers will meet to review the progress and challenges of a particular student; they share observations, insights and possible strategies. The team often includes therapists, teachers, parents and the school doctor.

References


Haralambous, B., Fitzgerald, R., Dr., & Nielsen, T., Dr. (October 2007). *You are now leaving flatland why we need imagination in education*. *Professional Educator*, 6(4), 38-to 41.


Ribeiro, W. & de Jesus Pereira, J.P. (Oct 2007). *Seven myths about the social participation of Waldorf graduates.* São Paulo, Brazil.


**ELECTRONIC SOURCES:**


[http://ierg.net/publications/artbook.html](http://ierg.net/publications/artbook.html)

AUSTRALIAN STEINER CURRICULUM FRAMEWORK 2011

Educational Foundations
Attachment 1:

STEINER GRADUATE OUTCOMES
STEINER GRADUATE OUTCOMES

Contents

1. Comparative Table Of International Research Studies Of Steiner Graduate Outcomes
2. Research Evidence Of Steiner Education’s Attainment Of Melbourne Goals
3. Steiner Education Equips Students To Meet The Future
4. Reference List
## 1. COMPARATIVE TABLE OF INTERNATIONAL RESEARCH STUDIES OF STEINER GRADUATE OUTCOMES

<table>
<thead>
<tr>
<th>Study</th>
<th>Location</th>
<th>Date</th>
<th>% of Steiner educated students who undertake tertiary or vocational study:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gerwin &amp; Mitchell</td>
<td>Germany &amp; Switzerland</td>
<td>Feb 2007</td>
<td>61 - 67%</td>
</tr>
<tr>
<td>Gerwin &amp; Mitchell</td>
<td>North America &amp; Canada</td>
<td>2007</td>
<td>94%</td>
</tr>
<tr>
<td>Bo Dahlin</td>
<td>Sweden</td>
<td></td>
<td>58% - 60% Compared with 47% national average</td>
</tr>
<tr>
<td>Hansen</td>
<td>Denmark</td>
<td>May 2003</td>
<td>62% Plus 29% general youth education &amp; 9% vocational education</td>
</tr>
<tr>
<td>Ribeiro &amp; Pereira</td>
<td>São Paulo, Brazil</td>
<td>Oct 2007</td>
<td>97% 100% pass rate for admission examination. 49% Compared with 14 to 16% average in mainstream students who take up university study.</td>
</tr>
<tr>
<td>Bill Woods</td>
<td>Mt Barker, South Australia</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Study</th>
<th>Location</th>
<th>Date</th>
<th>Achievements of Steiner graduates:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gerwin &amp; Mitchell</td>
<td>North America &amp; Canada</td>
<td>2007</td>
<td>Less instrumental - a deeper approach to study evident; more personal interest &amp; less labour market driven; less rote learning &amp; concern about examinations They all felt good about their studies and achieved well. 33% report they manage better than fellow students.</td>
</tr>
<tr>
<td>Bo Dahlin</td>
<td>Sweden</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bill Woods</td>
<td>Mt Barker, South Australia</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Study</th>
<th>Location</th>
<th>Date</th>
<th>National equivalent of level of results:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gerwin &amp; Mitchell</td>
<td>Germany &amp; Switzerland</td>
<td>Feb 2007</td>
<td>Educational levels of parents of Steiner students seem less important for continuity to university compared with municipal school students.</td>
</tr>
<tr>
<td>Gerwin &amp; Mitchell</td>
<td>North America &amp; Canada</td>
<td>2007</td>
<td>In science degree: 19.4% distinction and above; In humanities: 28.7% distinction and above; 60.1% credit level or better.</td>
</tr>
<tr>
<td>Bo Dahlin</td>
<td>Sweden</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hansen</td>
<td>Denmark</td>
<td>May 2003</td>
<td></td>
</tr>
<tr>
<td>Ribeiro &amp; Pereira</td>
<td>São Paulo, Brazil</td>
<td>Oct 2007</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Study</th>
<th>Location</th>
<th>Date</th>
<th>Chosen profession or field of study:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gerwin &amp; Mitchell</td>
<td>Germany &amp; Switzerland</td>
<td>Feb 2007</td>
<td>Higher number of teachers, engineers, doctors &amp; artists. Fewer business &amp; office administration careers</td>
</tr>
<tr>
<td>Gerwin &amp; Mitchell</td>
<td>North America &amp; Canada</td>
<td>2007</td>
<td>Up to twice as many Steiner students go on to study science as average. Most popular choices are education, arts, administration, health and medicine.</td>
</tr>
<tr>
<td>Bo Dahlin</td>
<td>Sweden</td>
<td></td>
<td>Wide range of professions: doctors, engineers, economists, artists, teachers, lawyers.</td>
</tr>
<tr>
<td>Hansen</td>
<td>Denmark</td>
<td>May 2003</td>
<td>Study areas: Humanities/arts 49%; natural sciences 11%; social sciences &amp; economics 5%; communication 4%; technology 10%; health 13%; other 7% Employment: 20% health &amp; welfare 15% teaching</td>
</tr>
<tr>
<td>Ribeiro &amp; Pereira</td>
<td>São Paulo, Brazil</td>
<td>Oct 2007</td>
<td>Study areas: Engineering 12%; Biomedical 31%; Human sciences 57%; Only 12% chose artistic careers.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Study</th>
<th>Location</th>
<th>Date</th>
<th>Level of satisfaction with chosen profession or career pathway:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>High level of satisfaction; Less interest in money &amp; career ambition 89% highly satisfied with choice of career.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>High level of satisfaction with tertiary pathways for study. 82% report large degree of satisfaction with education.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Study</th>
<th>Location</th>
<th>Date</th>
<th>Attitude towards Steiner philosophy (anthroposophy): choice of a ‘Steiner’ related career pathway:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Only 2.4% (e.g. Steiner teacher or eurythmist) Neutral to Steiner philosophy; 25% did not know the meaning of ‘anthroposophy’.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Only 1 – 2% applied to anthroposophical vocational training courses).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Vision of many religions 6%; 49% no religion classes or no memory of them; 38% remember Bible stories and biographies.</td>
</tr>
</tbody>
</table>
### What graduates think of Steiner education:

- **87%** value sense of belonging; majority would choose to go to a Steiner school again; instruction considered interesting & diversified; quality of human encounter valued.

  - Value warmth, safety, nurturing, tolerance, beauty, rich sensory experiences in early years (smell of beeswax, feel of carded wool, texture of wood, taste of warm soup), close friends & relationships, rhythm & ritual, well-rounded education, wide range of subjects, arts, music and learning by doing.

- **Value creativity** – musicality; way of viewing and understanding human beings; empathy; social competence; independence, self assurance and authenticity. Critical of lack of marks, text books and exams; need focus on proficiency; dare to be contemporary.

- **Value individual rhythm & maturity of each student; role of arts in learning; development of personal abilities and sensitivity.**

### What Steiner graduates value as adults:

- **Cultivating personal wellbeing** within context of friends and family. Culture & creativity more valued than average; electronic devices less so. They show more social engagement and higher rate of volunteers.

- **91%** practice and value lifelong learning; **94%** are self-reliant & value self confidence. **93%** value verbal expression & critical thinking; **96%** value interpersonal relationships at home & work; **82%** care about ethical principles at work; **82%** value helping others.

- **Many students** considered that Steiner education made a positive contribution to their ability to manage higher education.

- **Broad view of human being; many-sidedness; social coherence. Creativity, arts & crafts valued**

- **Global view of life; flexibility; Steiner education teaches many capacities; creative autonomy, self-confidence, and knowledge of self.**

## 2. RESEARCH EVIDENCE OF STEINER EDUCATION’S ATTAINMENT OF MELBOURNE GOALS

Gerwin and Mitchell (2007)¹ sum up the attributes of Steiner graduates by recognising three key characteristics:

- Waldorf school graduates value the opportunity to think for themselves and to translate their new ideas into practice. They both appreciate and practice life-long learning and have a highly developed sense for aesthetics.

- Waldorf school graduates value lasting human relationships—and they seek out opportunities to be of help to other people.

- Waldorf school graduates sense that they are guided by an inner moral compass that helps them navigate the trials and challenges of their professional and private lives. They carry high ethical principles into their chosen professions.

There is a high level of alignment between these predominant characteristics and the three main categories of the *Melbourne Declaration of Goals for Young Australians* (November, 2008).

2.1 SUCCESSFUL LEARNERS

One recent graduate (2006) recalls of her years at a Waldorf/Steiner high school:

In high school, I gained a foundation in real knowledge that is already evident in college. This is true in math and science, not just in art and history. In chemistry at Rochester Institute of Technology (RIT), I can explain to my classmates what happens when a particular acid and a particular base mix because we mixed those chemicals in our chem lab ... in 10th grade. Other students learned about acids and bases from textbooks, or their lab experience wasn’t meaningful, and so they can’t picture what happens. Classmates and dorm friends constantly ask me how I know what I know— it’s not that I know more facts than they do, but that I have remembered what I learned and I know how to connect facts to relate them to what I’m doing. . . . I know how to seek out my professors to get their help (which many of my classmates don’t even think to do) because my high school teachers were always present and helpful. . . . I was able to find my place at a large school— RIT has 15,500 students— because I had made my place at this small school (cited by Gerwin & Mitchell, Research bulletin, Spring 2007, vol 12, 2, p.9).

Professors who taught Steiner students as college undergraduates were invited to share their impressions of these students. Gerwin and Mitchell (2007) report that ‘three characteristic observations recurred across the academic disciplines and across a wide range of campuses’:

The primary characteristic reported about Waldorf graduates is the holistic and integrative quality of their thinking. Waldorf alumni/ae are perceived as thinking flexibly, often ‘outside the box,’ and integrating seemingly unrelated subjects with clarity and courage. One professor commented on his Waldorf undergraduate’s ability ‘to think creatively, to assimilate information as opposed to memorizing isolated facts, [as well as] his love for integrating physical movement with intellectual content areas.’ Another, reflecting on several Waldorf students he had taught over the years, reported that ‘all have the same broad approach to education. They are flexible, creative, and willing to take intellectual risks’ (p. 9).

2.2 CREATIVE and CONFIDENT INDIVIDUALS

In Gerwin and Mitchell’s 2007 study, the second characteristic observation Professors noted about Steiner students they had taught was their creative and imaginative capacity not only in the practice of the arts but also in the study of science:

A professor of biological sciences commended a Waldorf student in his classes for her skill in drawing and painting, not merely because she could illustrate what she had seen but because ‘it allowed her to see more than others did.’ Another professor noted of a Waldorf undergraduate that his ‘imagination, his nuanced verbal skills, and his leadership qualities had been richly nourished in him by his prior schooling.’ A different Waldorf student earned this comment: ‘She had more confidence in her imagination than did most students’ (pp.9-10).

The close relationship between creativity and the development of self-worth is evident in the following observation:

The Steiner school is seen to exert a favourable influence on the development of the personality (e.g. personal sense of worth, self-assurance, creativity, flexibility) and of social competency (e.g. empathic faculties, consideration, ability to cooperate) as well as the development of the ability to form one’s own opinion and become self reliant (Mitchell & Gerwin, Feb 2007, p.3).

Interviewed graduates (Ribeiro & Pereira, 2007) expressed how much they valued the respect shown for the ‘individual rhythm and maturity of each student.’ Their observations included the following comments:

- ‘Waldorf’s aim is considering the necessities of each human being according to his age;’
- ‘There I could be myself. It is a question of trust.’
- ‘Human development of the whole of life, not just preparing for college.’
2.3 ACTIVE and INFORMED CITIZENS

The third characteristic often noted by the professors about their Steiner undergraduates in the study by Gerwin and Mitchell (2007) is:

... their moral ballast and social caring for others. In a time of rising plagiarism on college campuses (fueled by all manner of internet services and ghost writers, for instance), it was reaffirming to hear a professor say of a Waldorf undergraduate: ‘Her social awareness is incredibly high, leadership excellent, ethical and moral standards stellar. I interact with many students. Her demeanor, skills, and social standards are the best I’ve encountered.’ Another described a Waldorf student she had taught as ‘a Renaissance man who has been able to find a balance between his intellectual gifts, his athletic interests, and his high ethical and moral standards’ (p.10).

The second comparative study (2003)\(^2\) of the research report by Bo Dahlin (2007) in Sweden focused on the achievement of the educational goal of ‘democracy and active citizenship’:

- The Waldorf teachers were felt to attach greater importance to human dignity, equality and the environment in their teaching
- Fewer Waldorf pupils felt that they are bullied
- The Waldorf pupils had more tolerant attitudes to deviant groups in society. The Waldorf pupils in general had more open and tolerant attitudes towards homosexual pupils and pupils with learning difficulties, compared with the municipal school pupils. They also had more open and tolerant attitudes to both immigrants and religious and political extremist groups. Only with regard to their attitudes to criminals and Nazis/racists/skinheads was the relationship between the two response groups the opposite, i.e., the Waldorf pupils showed a less tolerant attitude than the municipal school pupils.
- Less difference between the attitudes of boys and girls in the Waldorf schools

The third report (2004) of the research studies undertaken and published by Bo Dahlin (2007) in Sweden explored the educational goal of ‘civic moral competency’ in particular. The following observations were recorded:

- More Waldorf pupils thought their social studies teaching was interesting and good ... more Waldorf pupils ... thought they were good at social studies, compared with the municipal pupils.
- More Waldorf pupils felt responsibility for social and moral issues ... More Waldorf pupils thought they had a responsibility for the moral development of society in the future and felt that as adults they would have a responsibility to do something about the situations referred to in the evaluation questions.
- More Waldorf pupils felt that the evaluation questions were important, interesting and easy to understand
- The Waldorf pupils’ involvement in social and moral issues seems to increase with age. ... The attitude to social studies also became considerably more positive amongst the Waldorf pupils, while it became if anything more negative amongst the municipal school pupils. Furthermore, involvement in moral issues seemed to increase with age with the Waldorf pupils, while it was fairly constant amongst the municipal school pupils.
- The Waldorf pupils tended to refer somewhat more to love and moral courage. ... They also seem to be characterized by greater thoughtfulness, greater confidence in man’s innate

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\(^2\) **Summary of Swedish Waldorf School Evaluation Project.** Bo Dahlin, Professor, Department of Educational Science, Karlstad University, Sweden.
goodness and less confidence that more police or more severe laws can solve moral problems on a societal level. Instead the Waldorf pupils stress individual responsibility.

- More Waldorf pupils had a positive self-image.

The combined reports of the investigation suggest that Steiner schools educate for ‘moral competency’ and to a great extent produce ‘active and responsible citizens with democratic values’ (Dahlin, 2007).

### 3. STEINER EDUCATION EQUIPS STUDENTS TO MEET THE FUTURE

<table>
<thead>
<tr>
<th>Educational Futures Research: Guidelines for teaching &amp; preparing young people for the 21st century</th>
</tr>
</thead>
<tbody>
<tr>
<td>* 1. Appropriate Imagery</td>
</tr>
<tr>
<td>* 2. Teach for wholeness and balance</td>
</tr>
<tr>
<td>* 3. Teach identification, connectedness, integration</td>
</tr>
<tr>
<td>* 4. Develop individual values</td>
</tr>
<tr>
<td>* 5. Teach visualization</td>
</tr>
<tr>
<td>6. Cultivate visions of the future</td>
</tr>
<tr>
<td>* 7. Empowerment through active hope</td>
</tr>
<tr>
<td>* 8. Tell stories</td>
</tr>
<tr>
<td>* 9. Teach and learn how to celebrate</td>
</tr>
<tr>
<td>10. Teach futures tools</td>
</tr>
</tbody>
</table>

* The asterisked points all refer to important features of Steiner Education as identified by Gidley (1997).

**Source:** Beare and Slaughter, [1993 #1, p. 129-134]
REFERENCE LIST


Hansen, T. (2003). *Where did they go? Analysis of former students who graduated from class 12 at Rudolf Steiner schools in Gentofte, Herlev, Odense, and Århus, Denmark*. Denmark: Credoconsult. [www.credoconsult.dk](http://www.credoconsult.dk)

Ribeiro, W. & de Jesus Pereira, J.P. (Oct 2007). *Seven myths about the social participation of Waldorf graduates*. São Paulo, Brazil.

Steiner Education Australia

AUSTRALIAN STEINER CURRICULUM FRAMEWORK 2011

Educational Foundations

Attachment 3:

STEINER APPROACH TO CHILD DEVELOPMENT
Attachment 3:

STEINER APPROACH TO
CHILD DEVELOPMENT

Contents

a) Overview of the Steiner Approach to Child Development
b) Kindergarten / Foundation Position Paper
c) Primary School Position paper
d) High School Position paper
Steiner Education Australia

AUSTRALIAN STEINER CURRICULUM FRAMEWORK 2011

Educational Foundations
Attachment 3(a):

STEINER APPROACH TO CHILD DEVELOPMENT OVERVIEW
An Overview of the Steiner Approach to Child Development

Introduction

Steiner education is an integrated approach, designed to provide for the balanced and holistic development of all the dimensions of the growing child, including cognitive and psycho-emotional faculties, artistic and imaginative capacities, ethical-spiritual awareness and practical life skills (Educational Foundations Paper, 2010, v.1, section 3.1, p.6). The developmental schema provides a working evidence-based model of one way in which the Melbourne Goals can be achieved. The Australian Steiner Curriculum includes developmental profiles that highlight key age related indicators of development and the teaching strategies that are used to meet them. In each of the four subject area curricula, following the outline of yearly achievement standards, further descriptors are provided that illustrate the way in which the general capabilities and cross-curricular priorities are met on a year-by-year and subject basis. The following overview provides further details of the developmental approach and associated teaching strategies.

Epistemology

The epistemology on which Steiner pedagogy is based (Steiner, 1947 [1919]) observes that the clarity associated with rational thinking is dependent on the thinker adopting the position of an onlooker or observer in relation to the outer world. This stance involves an inevitable existential distancing and separation of the self from outside reality. The process whereby the self establishes a relationship with the outside world unfolds slowly and is associated with the capacity for intellectual thinking which reaches its first stage of maturity when students reach adolescence. The Steiner approach to childhood development suggests that when highly abstract intellectual tasks are scaffolded too early the associated experience of separation and distancing from the world can have a harmful effect on the socio-emotional development of young children (Clouder, 2008). Steiner researchers identify the significant steps that mark the evolving awareness of separateness from the world and the developing sense of selfhood. Educational strategies are designed to meet the threshold points; the principle of age appropriate learning is therefore embedded in curriculum planning.

Pedagogy

Steiner pedagogy proposes that the soul has three main faculties namely those of thinking, feeling and willing. ‘Thinking’ is seen to relate to cognitive and intellectual aptitude, ‘feeling’ to the development of emotional and social skills, and ‘willing’ to the growth of manual skilfulness and moral awareness. Holistic in orientation, the approach emphasises the interrelationship between cognitive maturity and socio-emotional and moral development; Steiner researchers strive to map the interconnections and to apply the recommendations arising from the ongoing study in curriculum design. As noted in the Steiner Educational Foundations paper (section 3.3.2) there is a strong alignment between Steiner educational goals and the Melbourne Declaration:

<table>
<thead>
<tr>
<th>Melbourne Goals:</th>
<th></th>
<th>Key features of Steiner education:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Successful learners</td>
<td>Confident and creative individuals</td>
<td>HEAD/TRUTH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>THINKING FACULTY</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cognitive development</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intellectual aptitude</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HEART/BEAUTY</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feeling capacity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Socio-emotional learning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Empathy; socio-emotional intelligence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HANDS/GOODNESS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strength of Will (or ‘Willing’)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ability to develop inner discipline; to act in a moral way; experiential learning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Active skilfulness &amp; Moral consciousness</td>
</tr>
</tbody>
</table>
In the same way that the physical body is not born mature, Steiner education recognises that the soul does not enter the body in a fully developed state but undergoes several birthing stages. Education plays an important role in guiding and nurturing the self as it accommodates itself within the body. Steiner educators therefore also research the interrelationship between bodily functions and the soul faculties. Thinking is clearly related to the head and brain and to the rest of the body through the nerve-sense organisation; feeling is closely connected with the rhythmic system and lungs, and the heart and blood; and willing is associated with the metabolic system and the limbs. In contrast to many educational approaches, the emerging individuality of the child is understood to influence its own development which adds a further significant factor to the debate concerning the influence of heredity and environment. The Dutch paediatrician, Schoorel (2004), labels the pathway whereby the self adapts itself to the body, one of emancipation because the self is seen to have the potential to overcome the forces of heredity and environment.\(^1\)

**The main stages**

As noted in the Steiner Educational Foundations paper (section 3.3.1) the Steiner approach outlines three main stages in childhood development that unfold in seven year cycles. In each of the stages one of the three principal soul faculties of *thinking, feeling and willing* plays a dominant role. The first stage from birth to age seven is characterised in particular by the development of the will.\(^4\) From age seven to fourteen the sentient or feeling element of the self \(^6\) of the child is most influential; and from fourteen to twenty one the capacity for intellectual thought matures. As noted above (section 3.3.1) the three soul faculties are closely interrelated and work together as a whole; each undergoes considerable growth and change in each of the phases.

*Intuitive learning, an inspired discovery of the wonders of the world, and an awakening understanding of the rationality of life imaginatively enlivened rather than narrowly confined also characterize the schooling of the three phases* (Masters, 2007, p.29).

**The sub-stages**

**Physiological growth**

Further sub-stages can also be discerned at intervals of approximately two and a third years. At about two and a three years of age children experience their first awakened consciousness of self which is marked by their ability to refer to themselves as “I”. The realisation by children of their separateness from the world around them indicates that a sufficient degree of objectivity has been attained for the thinking capacity to become more active. By the end of this stage (by the age of seven) children are able to associate perception and cognition and have developed the first form of memory (Lievegoed, 2005). However the development of thinking comes to expression initially in the *feeling life* of children in the form of *imaginative consciousness*; \(^xi\) in the next two and a third years (from 2½ to 4½) children begin to use their *creative imaginations* \(^ix\). From 4½ to 7 years of age (the following two and a third years) children awaken to their first conscious experience of the will: they are able to set and achieve goals for the first time.

**Psychological growth**

While stage one is governed by major physiological changes, the second stage of development is marked by growth towards psychological maturity. During this period thinking, feeling and willing undergo three significant processes of *metamorphosis*. \(^xiii\) Between their seventh and ninth birthdays a metamorphosis in thinking takes place and children begin to form their own mental images. This development is accompanied by a further distancing of the self from the world. Usually the impact of this separation begins to effect the emotional life of children shortly after the ninth birthday (between the age of 9½ and 11½), and is known in Steiner circles as the ‘crossing of the Rubicon’. \(^xiv\) The experience of objectivity in thinking now begins to be felt emotionally as the *feeling life gains objectivity*. Children start criticising the adults in their lives and asking questions concerning good and evil, death and loneliness. Their new experience of the duality of the world, of the sharp contrast between their inner and the outer world tends to make them intolerant, indecisive and prone to difficult moods. The word ‘boring’ not used...
before this, now reflects a significant truth of their experience – that the real world does not match up to their imaginative one.

The final process of metamorphosis that characterises the second stage of development takes place in the will (age 11½ to 14 years). During the early part of this sub-stage children do not realise the consequences of their dualism – the domination by their feelings inhibits their ability to apply their will in their newly found world of reality (Lievegoed, 2005). However as their twelfth birthday approaches a desire to conquer the world emerges and children discover their ability to apply their goal setting in a wider arena. Now the total separation of the child’s personality from the outside world begins. The specific goals of the 6/7 year old no longer suffice, all their activities are now aimed at conquering the outside world as a whole. Their will has a realistic-romantic character. Some express their freshly found power in adventurous pastimes and begin to play out images of heroes from stories or media; others may turn inwards and become obstinate or preoccupied with mysterious daydreams.

Social maturity
The third stage is characterised by the development of social maturity. Changes in the faculties of thinking, feeling and willing are coloured by a movement towards wholeness and synthesis that enables students of this age to bridge the rift between self and world. Here, as in the earlier stages, the thinking faculty guides the process that leads towards emancipation (Schoorel, 2004, p.123) and selfhood as new forces of consciousness awaken in the nerve-sense system and then permeate the feelings and the will. Between the ages of 14 - 16½ students’ develop greater clarity of thought and an increasing ability to form balanced judgments. However their need to grasp the world tends to make them critical and argumentative.

During the second sub-stage students are able to strengthen the relationship between their inner and outer worlds of experience and to know that: “Whatever the self describes, describes the self” (Boehme). They are now able to meet the other; they can express their own personality and also care for the other; they develop empathy and the capacity to take responsibility for their own work and behaviour; they are able to make and follow through choices based on their own insight. In the final sub-stage a further process of synthesis follows that affects the Will of students: They are now able to express themselves in the world. This period (between 18½ and 21) is characterised by a more mature level of social responsibility and career preparation. “Love for responsibility is the path of development from adolescence into adulthood” (Lievegoed, 2005, p.112).

Key Turning Points in Development:

<table>
<thead>
<tr>
<th>AGE</th>
<th>THINKING</th>
<th>FEELING</th>
<th>WILLING</th>
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<tbody>
<tr>
<td>0 - 2½</td>
<td>Development of thinking</td>
<td>Development of feeling</td>
<td>Development of the Will</td>
</tr>
<tr>
<td></td>
<td>Ability to say ‘I’ representing first awakening consciousness of self comes by end of stage.</td>
<td>First stage of imaginative consciousness: expressed in the ‘creative imagination’ of play.</td>
<td>Development of conscious will: First experience of goal setting in planned play (age 6).</td>
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</tbody>
</table>
## STAGE 2: Psychological maturity

<table>
<thead>
<tr>
<th>AGE</th>
<th>THINKING</th>
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<th>WILLING</th>
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<tbody>
<tr>
<td>7 - 9½</td>
<td><strong>Metamorphosis of thinking</strong>&lt;br&gt;From association of perception and cognition to the ability to form their own mental images that are inspired by multi-modal artistic sources e.g. stories with archetypal meaning.</td>
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<td>9½ - 11½</td>
<td><strong>Metamorphosis of feeling</strong>&lt;br&gt;The ‘Rubicon Crossing’: first emotional experience of separation from the world.</td>
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<td>11½ - 14</td>
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<td></td>
<td><strong>Metamorphosis of the Will</strong>&lt;br&gt;Desire to conquer the world: Ability to apply their goal setting in a wider arena. They are inspired by biographies of those who have succeeded in great feats of will.</td>
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</table>

## STAGE 3: Social maturity

<table>
<thead>
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<th>AGE</th>
<th>THINKING</th>
<th>FEELING</th>
<th>WILLING</th>
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<tbody>
<tr>
<td>14 - 16½</td>
<td><strong>Synthesis of thought</strong>&lt;br&gt;Developing a worldview.</td>
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<tr>
<td>16½ - 18½</td>
<td><strong>Synthesis of feeling</strong>&lt;br&gt;Religious inclination. Search for self-identity and expression.</td>
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<tr>
<td>18½ - 21</td>
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<td></td>
<td><strong>Synthesis of the Will</strong>&lt;br&gt;Ability to express themselves in the world: Social responsibility; career preparation.</td>
</tr>
</tbody>
</table>

References: Lievegoed, 1985, pp.112-113; Rawson & Richter, 2000; Riccio, 2001; Burkhard, 1992

## Educational implications and indications

### Introduction

The three main periods of childhood development have been characterised as being related to ‘head, heart and hands’ and to the virtues of truth, beauty and goodness (Steiner Educational Foundations, section 3.3.1). As the pre-school child comes to know the world and others through physical, sensory activity and learns above all through imitation and play, the guiding principle in early childhood is that of Goodness. Very young children learn in an immediate, participative way \( x^{xvi} \) and come to know and make the world their own through physical activity (Steiner, 1996 [1907]). When thinking first awakens it finds expression in a type of imaginative consciousness (endnote xiii). The Steiner approach suggests that it is this vital picture-making capacity \( x^{xiv} \) that gives life to cognition and provides the foundation for the development of logical and conceptual thinking (Steiner, 1996 [1907]). The main task of primary schooling is therefore understood to be that of educating and nourishing the imaginative powers of the child. As Beauty is the motif during this stage the arts play a particularly important role in the aesthetic education \( x^{xv} \) of the feeling faculty. The third motif of Truth is most applicable in the high school when students engage in rigorous intellectual thinking and integrate diverse inner and outer perceptions in a way that enables them to begin to discern truth in and for themselves. The underlying principle aims to stimulate the activity of thought rather than loading the mind with knowledge content.
Participative consciousness (birth to age 2½)

The physical body is born incomplete; the limb system lacks differentiation and is subjected to chaotic involuntary movements and the nerve-sense system is totally open. The new child is born unprotected into the world. The Steiner approach observes that the whole body at this stage is one large sense organ and that impressions from the environment shape the inner human being. The main principle at work in learning during this early period and onwards (until approximately age nine), is that of imitation. “Every observation is first taken in deeply, grasped by the will and then, like an echo, comes forth again in a child’s behaviour” (Jaffke). The child’s first ‘educational’ task – that of taking hold of their inner body and developing its differentiation – is all learnt through imitation. It is a task that draws on all their bodies’ formative growth forces. As the forces of growth and memory (visual representation) are identical (von Kügelgen), if formal literacy learning is introduced too early it can have a damaging effect on the child’s health. During this period the child gains uprightness in the face of gravity and learns to walk and begins to talk, with this latter development of speech forming the prerequisite for thinking.

Steiner educational indications for this stage:

- Nurture the senses; avoid sense malnutrition (bland, over-processed food; mass produced toys) and sense bombardment (technological noise; overstimulation from television; food additives). Work towards creating a ‘sense-rich’ home and/or day care environment;
- Use imitation wisely rather than “clever teaching” techniques (Jaffke);
- Be a worthy role model and provide a wholesome, safe, joyful and love-filled environment;
- Understand that children need to use their formative forces for building their bodies not for formal literacy learning (von Kügelgen).

Imaginative consciousness (age 2½ to 4½)

The formative forces that have been active in the head region now are now focused in the middle sphere, of the rhythmical organs of the heart and lungs. Children gain two new capabilities, that of fantasy and memory (Jaffke). When in about the third year of life, young children refer to themselves as “I”, this event reflects a consciousness of self that is accompanied by the awakening of emotion – the moment when feelings acquire a semi-conscious, dreamlike quality for the first time (Lievegoed 2005, p.70). At this point children also realise that they can say “no” to the world and that this helps them to feel empowered; the negative phase comes to an end when the experience of self is strong enough not to have to go against the world. Their play shows that they are still closely connected with the environment. While they can, in imagination, take a step back from the world, their feelings are still locked to the ‘here and now’ to the world of joy and sorrow. They live in present moment awareness: their desire for objects passes as the objects disappear from view. Steiner educational indications for this stage:

- The indications from the previous stage still apply;
- Toys should be capable of transformation so as to stimulate the child’s imagination to fill in the details;
- Tidying up and packing away toys is a joyful activity.

Imagination and planned play (age 4½ to 7)

Fairy tales also originated in this creative imagination during a stage when men still lived within such forces. The fairy tales, which are true folk tales, are always concerned with great truths of life and death, good and evil, the growth of the soul in humility, and its strengthening in chivalry. The content is formed by profound truths, coming from the world of the still semi-conscious creative spirit, the form is that of the childish creative fantasy (Lievegoed, 2005, p.74).

The polarities of reality and imagination are characteristic of this stage: Children are able to move in and out of reality and imagination with ease. Their play is governed by rhythm and indefatigable energy, the joy of creation (Lievegoed, 2005). Jaffke observes that if children are creative, around their fifth year, they may experience a second crisis: they may face real boredom. They may complain that they do not know what to do; it appears that their capacity for fantasy has left them. The crisis is overcome when they realise that the stimulus for play has now to come from within them rather than from the environment.
Children begin to have the capacity to create pictures of past events and they can use these in play irrespective of place, time and people; at the age of five and six they may sit together in pairs and small groups and plan their play. Towards the end of the stage they no longer use the forces of creative imagination to the same extent and become more interested in setting themselves goals to achieve. Their soul life gains the structure necessary for learning (Lievegoed, 2005, pp. 70 – 82).

Steiner educational indications for this stage:

- Avoid sophisticated technological toys;
- Encourage children to play in nature and provide as natural an environment as possible;
- Create a world suitable for imitation;
- Create a calm, joyful atmosphere of work – children should feel “lifted up” by adults’ work (Jaffke);
- Provide a rhythmical and orderly routine.

School Readiness

In assessing school readiness it is necessary to understand the social importance of imaginative play. After the age of four children no longer play alongside each other but engage with their peers in a creative and constructive style of play. This social interaction signals a significant development which requires maturation time:

Many children are quite capable of applying their intelligence to tasks such as learning to read and write. The question is: Shouldn’t this intelligence be given time to develop a social awareness of others through creative play? Without this, literacy can become anti-social, rather than a means of communicating and sharing. The listening and oral language skills, the social interaction and initiative that children can develop at this age in a structured Kindergarten setting should not be underestimated. If the early years period is essentially characterised by the child’s will in activity, this last part of the seven year phase is important for the development of will in the social and feeling realm (Rawson and Richter, 2000, pp.16- 17).

Other signs of school readiness include the following factors:

- Co-ordination of movement;
- Memory abilities for example the ability to perceive, recall and reproduce shapes and figures;
- Emotional independence and the strength to leave the security of parents and the Kindergarten teacher (Rawson, 2000, pp.16-17).

The coloured veil of Imagination (age 7 to 9½)

During this stage children\(^2\) gain their own little world with growing enthusiasm; a world still enclosed by the safe walls of the feelings of their own selves. Between inner and outer world there is still a coloured veil of imagination. This little world is in many ways comparable to the small principalities of the eighteenth century where the prince or duke could walk around the borders of his own realm before breakfast. However, within those miniature states it was just as busy as in a large one (Lievegoed, 2005, p.87).

Age 7 marks the beginning of formal learning. Children take early steps towards cognitive development by learning basic skills and strengthening their memory. Thinking undergoes the first major metamorphosis (Lievegoed, 2005, p.85):

Thinking is no longer limited to eagerly grasping and associating perceptions of the outside world but is gradually able to stretch its wings and soar in its own element. It acquires the possibility of developing its own images; ... the child rises from perception to concepts. During the first years of the second stage the life in thought-pictures is very pronounced: the images amalgamate to form an enclosed world which is not disrupted until puberty. This childish world

\(^2\) The writer’s original expression has been adapted to the plural form of “child” to make the language gender neutral.
has a strange ‘realistic unreality.’ … Images are not yet sharply defined; they are fluid, mobile and active like people in a stage-play.

The images can be compared to the day-dreams or poetic mood of adults where imaginations and drives interact without a direct relationship with reality. Lievegoed suggests that to provide the right educational diet for the children in the first three years of primary school, we should really be poets (2005, p.86). Teaching in the lower primary school is directed towards the aesthetic education of the children’s inner sensibilities and life of feelings; during this period, as the children learn how to breathe, ‘their external experiences and their inner reflections become more differentiated’ (Rawson, 2000, p.40). Teachers guide children in their encounter with external reality and help them to feel at home in the world. Strategies which assist teachers to meet this educational orientation include:

- rhythmical repetition to support the development of memory;
- helping children to build imaginative pictorial images;
- presenting universal concepts in picture form;
- using strong narrative content;
- focusing on art and music to engage their feelings;
- encouraging children to identify with the subject matter on an emotional level;
- providing opportunities for experiential learning;
- valuing social, emotional and volitional learning as well as cognitive development.

Lievegoed (2005) emphasises the importance of a further strategy: children should be given many opportunities for speaking and recitation. He explains that children of this age would like to ‘paint the world with words’, because they “can only grasp the spoken word and come to understand it through speaking” (p.86).

**Crossing the Rubicon and beyond (age 9½ to 11½)**

At around the age of nine years a change takes place in the feeling life of children: they experience their first emotional separation from the world. The potential loneliness that accompanies this increasing capacity for objectivity is balanced by their growing ability to employ causal logic and to begin practising a more conceptual and critical style of thinking. The Steiner approach identifies the risk of disconnection and the consequent manifestations of early cynicism if pressure is placed on the development of the new critical faculty for over-hurried development. Signs that children are suffering from experiences of alienation are apparent in the increased rate of media articles reporting on the incidence of group bullying, early delinquent and violent behaviour and depression in this age group and in even younger children. For this reason teachers clothe causal thinking in imaginative and pictorial language and strive to strengthen the connection between the inner experience of the children and their relationship with the outer world by using the following strategies (Rawson, 2000, p.18; p.45):

- continuing to use earlier teaching methods which favour experiential learning and multi-modal artistic learning;
- directing their curiosity and natural interest in the world towards an inquiry into the laws of the plant and animal kingdom;
- using sense-based scientific inquiry methods;
- showing that history has “been shaped by humans, who are in turn shaped by historical forces”;
- providing a rhythmic structure for lesson content;
- following the dictum “to work in the world is to understand the world”. 
The romantic-realistic (age 11½ - 14)

By the end of this final stage of the second seven year phase (in their 14th year) students will be ready to enter fully into the conceptual stage traditionally marked by 'formal operations' and abstract thinking. The Steiner approach however, identifies a further transitional stage between the time of students' twelfth and fourteenth birthdays. While it is recognised that students of this age are loosening their attachment to concrete reality and to thinking that is grounded in the rich imaginative life of feeling and that they are more able to use causal logic, teaching strategies aim to use the emerging conceptual capacities in a way that harnesses them to a closer, deeper understanding of the nature of the real world around them. Students only form concepts in relation to embodied learning: what they are able to see and/or experience; scientific conceptual models are therefore not favoured. Teachers direct students towards observing on an experiential level the laws and principles at work in the natural world; students then reflect on what they have learnt and use this knowledge to form judgements and new questions. In this way teachers support students to find their own voice and to awaken a capacity for original thinking – they come to realise in a living way that their own process of knowing (brought about through the synthesis of their perceptions and thoughts) is aligned with the knowledge of others and that ”thinking integrates world phenomena” (Steiner, 1964 [1894]).

An example from the Science curriculum of the development that takes place during the transition from Class 7 to Class 8:

In Class 8 the development of critical and creative thinking is carried further than in Class 7. The lessons in Class 8 are still rich in experience, and require the students to make separate observations from explanations, however, the experiences in general are not as sense-based, e.g. the force that travels in all directions (pressure) in a fluid, or the transmission of a wave of pressure and rarefaction (a sound wave) in the atmosphere cannot be seen. To understand such phenomena the student has to use their imagination to build a picture of the underlying causative principles, which is a form of primary model building. The understanding of the phenomena requires a greater degree of abstraction than the thought processes in Class 7. For example the elements of galvanic electricity explored in Class 7 become now the elements of electromagnetism – where the themes of electricity and magnetism unite in a way that underpins much of modern technology. The different areas of Year 8 (Science 8.1 - 8.5) engage thinking in qualitatively different ways, each exercising another aspect of intelligence.

As they are now able to relate the concept of causality to their own behaviour they are able to take up more responsibility for their actions and can weigh up the implications and consequences of rules at home and in the classroom. This attribute sometimes manifests in the challenging of adult authority as students yearn for independence and want to participate in decision making that is related to them and request the freedom to express their own point of view. The period is characterised by an increasing interest in the world which includes consideration of the significance of laws in wider society, ecological awareness and respect for different cultures. Students are able to take responsibility for their own class community and willingly participate in service learning.

However students are aware that they have moved beyond the innocence of childhood and that they do not yet fully belong to the world of the teenager. As they strive towards independence they are sometimes troubled by awkwardness and beset by feelings of anxiety; solitude is sometimes accompanied by subdued introspection (Rawson, 2000). The Steiner approach aims to strengthen the students’ growing sense of self by working towards the integration of their soul faculties. If the will becomes too powerful a tendency towards destructive behaviour may develop; on the other hand if thinking predominates the newly forming critical capacity may lead students to adopt a cynical attitude towards life. If the feeling faculty is too strong students are likely to become preoccupied with their inner selves. The curriculum is designed to support students to re-find equanimity. To strengthen the will students are encouraged to participate in physical activities including Bothmer gymnastics, eurythmy, games, sport and dancing. In particular outdoor education camps give students opportunities to

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2 The difference relates to the epistemological underpinnings of the approach. Imagination is valued as a capacity that synthesises perception and cognition (Steiner, 1894/1964); as a form of “thought-imbued” perception ( Warnock, 1976, p.196) that enables the thinker-observer to penetrate more deeply into the essence of the real world.

become self-reliant and to test their growing physical prowess and survival skills while also learning to appreciate the natural environment. To support and bring harmony to the feeling life of students, artistic and multi-modal teaching methods continue to be used; opportunities are provided for students to extend their imaginations in new directions. Teachers build on students’ thirst for knowledge: new perspectives include journeys of exploration in history, areas of combustion and mechanics in physics, a global view of the world in geography and the study of health and nutrition in biology. As students leave the magical realm of childhood behind them it is appropriate for them to study the transition from myth to history. Given that a guiding motif for this period of development is that of the ‘romantic-realist’, curriculum content includes heroic and romantic themes and inspiring biographies. Overall teachers work towards building an integrated and meaningful world picture “in which the striving ethical human being has central significance” (Rawson, 2000, p.49). Further strategies which teachers use to meet the developmental needs of this stage include:

- recognising that their desire ‘to conquer the world around them’ has a playful element in it;
- encouraging technical expertise in woodwork and handicrafts;
- strengthening cross-curricular links and the interrelationship of the disciplines;
- developing a capacity to hear the inner speech of their students;
- providing opportunities for daily speech work including choral speaking, recitation, talks and oral presentations to help students to find their own ‘authentic voice’.

Adolescence

The human being works his way through via the breathing system and the circulatory system right into the part where the muscles are attached to the bones. He works right to the edge of being human and at puberty breaks out into the outside world. Not until this moment does he arrive fully in the outside world (Steiner, 1986 [1922]; cited by Rawson and Richter, 2000, p.46).

The guiding motif for this period is that of Truth: the focus shifts towards critical analysis, independent judgment and self-directed tasks. Students are guided towards learning to view the world from a range of perspectives. Teaching methods become more conceptual and cognitive. Adolescents respond positively when presented with worthwhile ideals that provide them with sustenance for their inner journey. The phenomenological methodology directs students towards an objective understanding of the principles of the natural and cultural worlds. It is the making of judgments in particular that helps students to form a relationship between their inner lives and the outer world. For students to be able to trust their own judgments the thought content needs to be accessible – teachers therefore select content where ‘objective laws’ and the ‘true nature of phenomena’ can be experienced and made conscious (Rawson, 2000, p.51).

Developing a worldview (age 14 to 16½)

Students develop greater clarity of thought and an increasing ability to form balanced judgments. They experience ‘real’ selfhood for the first time; the acuteness of their new level of self-awareness and self-criticism often leads them to hide their new persona carefully and to use fashions as masks. Their wish to be understood is relieved and supported by diary writing. As forces of growth penetrate the metabolic-limb system sexual development takes place. The accompanying hormonal changes introduce disequilibrium: as the will is not yet strong enough to direct emotions this is the age of extremes and polarities: students swing between the past and the future; the old and the new; independence and group security. At this age students aspire towards ideals long to make a connection with a hero. If the direction of their will is blocked they run the risk of falling into apathy or aggression (Lievegoed, 2005, pp.104-109).

Strategies which teachers use to meet the developmental needs of this stage include support for (Rawson, 2000; Lievegoed, 2005; Mitchell & Clouder, eds, 2001):

- farm and work experience and service learning;
- teamwork; collaboration and conflict resolution;
- independent student research and self-motivated interest and study;
- the translation of theory into practice;
- ‘hands-on’ experience and technical expertise in the arts and technology;
- structured logical thinking and causal deductions;
- imaginative, creative and original thinking;
understanding that the development of the arts and sciences reflect historical changes in cultural consciousness;
understanding that artists and scientists express worldviews in their works.

Search for self-identity and expression (age 16½ to 18½)

The students’ desire for knowledge broadens to incorporate a new intellectual focus. They desire to gather not only information about a topic, but also insight into how we know something may be so. There is a greater objectivity and clarity in thinking, bringing an increased ability to draw conclusions logically out of the formation of common sense judgments; they are able to justify their opinions articulately. Students begin to apply the conceptual tools of analytical thinking to practical situations and complex processes. In particular students are encouraged to develop mobility in thinking and to move from analysis to synthesis, to look for correlations and to bring disparate elements into a holistic overview. Strategies which teachers use to meet the developmental needs of this stage include support for (Rawson, 2000; Lievegoed, 2005; Mitchell & Clouder, eds, 2001):

- self-directed social responsibility; objectivity in feelings, resilience and empathy;
- objectivity and clarity as well as creativity and originality in thinking;
- the application of theory in practice; an independent and extended research project;
- skill and expertise in the arts and technology.

Social responsibility (age 18½ to 21)

The foundations are laid for lifelong learning and self-education. Students search for truth and authenticity in every sphere of life and develop an integrated world view of the human being, society and nature. They prepare themselves for their work in the world and endeavour to grasp and understand the nature of their spiritual task on earth.

Concluding comments: Embedded values

Steiner education focuses in particular on the “development of the Self”. As Steiner (1971, GA 9) proposes that the self is the vehicle of the spirit,4 the realisation of the self is understood to be “the human being’s most sacred task” (Lievegoed, 2005, p.133). The developmental approach is therefore deeply embedded in the values that inform the soul-spiritual orientation of the pedagogy. Three major transitional points which have been noted above are pinpointed here:

Self-awareness (around age three)

Most people are able to remember back to the point in their lives when they first become aware of their own selfhood. Until this awakening children refer to themselves by their name, but at this moment they call themselves “I” for the first time (Masters, 2007, p.32; Schoorel, 2004, p.27). Consciousness of Self continues to unfold and develops in two ways: it becomes more continuous (not only asserted at times) and “there is a shift from outward action in the world to the inner activity of forming an opinion about the world” (Lievegoed, 2005, p.130). Both of these developmental aspects are essential prerequisites for learning and both contribute towards the growing sense of “consciousness of self” as separate from ‘outer’ events. This awareness of ‘self’ as a detached observer in relation to the outside world is a function of conscious thinking (p.131).

4 See the paper” Epistemological and pedagogical perspectives for further detail and discussion.
Experience of Self (around age 9 to 10 years)
The self is not only experienced consciously in thought but is also experienced in the deeper layers of the feeling life. It is this deep-seated and felt experience of self that finds its first expression towards the end of the ninth year and that “is reinforced during pubescence and becomes the dominant feeling in puberty itself” (p.131). The first felt experience of the separation of self from the world is tragic in an archetypal sense: it is as if every self has to re-experience the original expulsion from Paradise. The Biblical account of the expulsion from the Garden of Eden is one that ‘rings true’ to our inner psychological experience of the lost paradise of childhood; children undergoing this experience often feel naked and vulnerable in a world that now appears strange and new.

Self-realisation (age 18 years)
The felt experience of self is not the deepest layer of self-awareness, for lying deeper still and more hidden from consciousness is that aspect of self that is related to the will. However it is from this source that the resolution of the painful experience of separation finally flows. Consciousness and experience of self are followed by a need for self expression in the world. Lievegoed (2005) observes that realisation of self is always accompanied by strong idealism (p.132). Students of the age of 18 (identified as the time of the awakening of self-expression and self-realisation), are often motivated to ‘save the world’, some are even prepared to fight and die for their ideals. A further stage of self-realisation follows in adulthood when the insight comes that there is an inner pathway to self-realisation where the self turns the will inwards to work for self-change – then education and inner development of the self become a prerequisite for working towards change in the world (Lievegoed, 2005, p.132).

The way in which self-realisation is brought to expression depends on the student’s pathway through the earlier two stages of self-consciousness and self-experience which is why Steiner educators place much emphasis on these thresholds. There are two main dangers: one where self-expression becomes too pronounced and students assert themselves and their own wishes and desires against others and the world; the other where self-expression fails and students’ sense of self-identity is stamped out, leaving them in the slavish service of others. It is the task of the teacher to help students to maintain the balance between these extremes.

The ability to express oneself in the world takes place on many levels but all are ultimately related to the identity the self forges in terms of its own biography, and the way this is integrated with its sense of vocation and relation to the world. Assisting students to have the ability to find their own authentic and embodied voice is the main goal of Steiner education aptly expressed in the following words:

Our highest endeavour must be to develop free human beings who are able of themselves to impart purpose and direction to their lives (Marie Steiner, 1923).
Reference list


Steiner, 1986 [1922]. *Soul economy and Waldorf Education*


Von Kügelgen, H. *The laws of childhood.* (unknown source).
Glossary

Epistemology: The study of the theory of knowledge; Steiner’s epistemology includes a soul-spiritual dimension.

Onlooker consciousness: Originally based on Descartes’ Cogito ergo sum (‘I think, therefore I am’) which leaves the thinker confident of their own inner thought activity only – the thinker looks out on a world that does not necessarily connect with inner thinking.

Existential distance: Unresolved epistemological issues i.e. the inability to untie the ‘body-mind knot’ – the question of the distance between objective and subjective reality – led existential philosophers to focus on human experience and the search for meaning rather than on the objective truths of science and mathematics. Existential philosophers popularised the notion of the ‘existential dilemma’ i.e. the challenges associated with the separation between subjective and objective epistemologies – as well as their response – ‘for the self to take responsibility for meaning making.’

Scaffolded: Relating to Vygotsky’s ‘ZPD’ – the zone of proximal development where the assistance provided by a teacher or adult can help a student to learn more quickly and effectively.

Researchers: Include doctors, psychologists, psychiatrists and educators.

Soul: “By the word soul is signified that by which one links the things of one’s own being, through which one experiences pleasure or displeasure, desire or aversion, joy and sorrow in connection with them” (Steiner, GA 9, 1971 [1922], pp.4).

(Soul) Faculties: Inherent physical, mental, or psychological powers or aptitudes. From the Latin words facultas and facere – to make or do; Related to capacities, from the Latin word capere, to hold; and powers (posse) to be able (Latin for potential). ‘Facult’y is a word that is traditionally used in theology to describe the soul.

Thinking, feeling and willing: Thinking relates to the intellectual and cognitive aptitude/intelligence; see the following two notes for comments on the Will and feelings.

The Will: The Faculty of the Will in Steiner philosophy (1894/1964) refers to the full range of motivational behaviours from drives, instincts and desires to more refined moral impulses. Steiner education proposes that the three faculties need to be integrated; it is particularly important for will forces to influence and enliven thinking and for thinking to refine will impulses; the feeling faculty is understood to play a harmonising and mediating function. Steiner teachers aim to awaken children’s thinking so that they learn to ‘think for themselves’ instead of reproducing factual content. Broadly speaking ‘the Will’ can also be understood to refer to the physical aspect of development because Steiner education suggests that the Will as a psychological function is associated physiologically with the metabolic-limb system. As skills learning inevitably uses the limb system, in this way ‘the Will’ is also related to skills learning and to physical activities. The use of the word ‘behavioural’ does not have the meaning that is applied in behavioural psychology.

Sentient or feeling element of the self: The feeling faculty can be understood as the emotional component of the soul or self. The verb fostering denotes the gesture of caring and nurturing that is needed for the development of aesthetic awareness, sentience, sensibility and the senses in general.

Imaginative consciousness: The young child’s consciousness differs from the adult’s – it is more like an adult’s day-dreaming consciousness - Steiner education calls this “imaginative consciousness”. Imagination is understood to be a capacity that can be developed through phenomenological (Goethean-style) observation and arts training. In adults Imagination is understood to develop artistic inspiration and spiritual insights; in children imagination refers to a capacity to be creative in play and learning and to form inner mental images (these do not have to be visual). See the note below.

Creative imaginations: The imaginative flow of a young child’s consciousness runs along with the creative stream of life. “Participative consciousness” (which is characteristic of the earlier stage of the baby and toddler) is the type of consciousness associated with deep sleep – it is the most unconscious
mode of awareness. We know this level of awareness from tasks that once learnt we are able to perform automatically. Athletes and sports people call "participative consciousness" being in 'the zone'. It is not possible to be analytical when one is performing a learnt physical skill and yet we can experience that we are in a stream of knowing consciousness. "Imaginative consciousness" is one level more conscious – whereas participative consciousness relates to the sphere of the will – imaginative consciousness relates to the feelings. This is the awareness of the artist and poet who know how to switch off their critical thinking while they draw on the creative stream of consciousness. This too is the level of awareness of the young child – they are able to slip into a creative flow of awareness that informs their play.

xiii Metamorphosis: A word used to describe change in the natural world; it is used in Steiner literature to refer to psychological growth where the stages of change are distinctly different from each other – where growth and development proceed in jumps.

xiv ‘Crossing of the Rubicon’: The Rubicon (Latin: Rubicō, Italian: Rubicone) is a shallow river in northeastern Italy, about 80 kilometres long, running from the Apennine Mountains to the Adriatic Sea. The idiom "Crossing the Rubicon" means to pass a point of no return, and refers to Julius Caesar's crossing of the river in 49 BC, which was considered an act of insurrection. [http://en.wikipedia.org/wiki/Rubicon](http://en.wikipedia.org/wiki/Rubicon)

xv Participative way: see note xii above.

xvi Picture-making capacity: The characteristic imaginative consciousness of children assists them to create picture-like images in their minds. Their image making capacity is not limited to visual images and includes images related to all the senses.

xvii Aesthetic education: Training in the appreciation of the principles of beauty and art. Steiner education is oriented towards educating the senses of students (12 senses are identified) as a pathway towards developing creativity and imagination. The aim is to refine and extend the students' abilities to perceive with their senses (in the same way that a musician is able to hear more than the average person and an artist to discern colour and light more effectively). The phenomenologic observation methods as well as practise in the arts are used as aesthetic training. These methods also aim to educate the feelings or emotional intelligence of the students. Research indicates that in the rushed and noisy, technologically dominated contemporary world the human senses are degenerating: we are losing our ability to use our senses as the neural pathways in the brain are changing (Kniessle; see attachment 3c).

xviii One large sense organ: … (T)he young child is almost entirely one sense organ. What is the nature of a sense organ? It surrenders fully to the world. Consider the eye. The entire visible world is mirrored in the eye and is contained in it. The eye is totally surrendered to the world. Likewise the child, though in a different way, is surrendered fully to the environment. We adults may taste sweet, bitter, or acid tastes on the tongue and with the palate, but the tastes do not penetrate our entire organism. Although we are not usually aware of it, it is nevertheless true to say that when the baby drinks milk the taste of the milk is allowed to permeate the entire organism. The baby lives completely like an eye, like one large sense organ. The differentiation between outer and inner senses occurs only later (Steiner, 1923, *Waldorf Education and Anthroposophy* 2, [14], p.195).

. . .(D)uring the first period of life the child is in the highest degree and by its whole nature a being of sense. The child is like a sense organ. The surrounding impressions ripple, echo and sound through the whole organism because the child is not so inwardly bound up with its body as is the case in later life, but lives in the environment with its freer spiritual and soul nature. Hence the child is receptive to all the impressions coming from the environment (Steiner, 1907, *Education of the Child*. [2], pp.20-21).

xix Imitation: Children learn mainly through imitation in the early years but the principle continues to apply until age 9. Babies and young children are characterised as being like 'one large sense organ' because they absorb their environment (like a sponge) and do not have a screening device to shut out harmful influences. What is taken in becomes formative in both a physiological and psychological sense (Jaffke; Schoorel, 2004; Lievegoed, 2005).

xx Formative forces: Formative forces relate to the Steiner concept of the ‘etheric body’ which forms the interface between the physical body and the psychological functions which are related to the ‘astral body’.
“The etheric body is a force-form; it consists of active forces, and not of matter. The astral or sentient body is a figure of inwardly moving, coloured, and luminous pictures” (Steiner, *Education of the Child*, 1996 [1907], pp.8-9).

Like the wind which can only be seen by its ‘passing through’, the etheric body is visible (to physical sense perception) only through its activity in the organism in the life processes of breathing, biochemistry, biorhythms, heartbeat, brainwaves, and in the daily rhythms of organic functions including the female menstrual cycle. In the same way that the waves of the sea leave a tracery of branching forms in the sand on the beach, so does the etheric body flow into the form of our habits to shape the patterns of our lives. The key characteristics of the etheric body are therefore its formative or forming/structuring influence and its life sustaining and regenerating qualities; throughout our life the etheric body works continuously against the deadening effects of the mineral forces to preserve the shape and life processes of the body. When ‘life’ leaves the body it becomes a ‘corpse’ (derived from the Latin word for body) and the process of decomposition begins (Schoorel, 2004, p.17).

“Formative forces arise out of the realm of life energies — the etheric body — known in various traditions as vital force (homeopathy), chi (Chinese medicine), and prana (Ayurveda). They are a counterpoint to the physical energies and substances studied by the conventional materialistic science of our time. This reductionist science explains the formation of a living entity, such as a plant, as the elaboration of DNA programming in the cells and other biophysical mechanisms. By contrast, … living science recognizes the etheric formative forces that interact with physical substance. They are like the guiding hands of the potter that shape the clay as it turns on the potter’s wheel. Yet, because they belong to a realm that is invisible to our ordinary sense impression, we only ‘see’ these forces by their results, by studying the forms in nature.” (From a book review by Richard Katz, of *About Formative Forces in the Plant World* by Dick van Romunde. Downloaded from: http://www.flowersociety.org/About_Formative_Forces.htm)

xxi Bothmer gymnastics: A series of exercises based on space and gravity which use the three dimensions, width, depth and height. The exercises are designed to enable participants to rediscover space as a reality that can be felt and used to their advantage.

xxii Eurythmy: an expressive art of movement created by Rudolf Steiner and Marie von Sivers that visually represents in the sounds and rhythms of speech and the tones and rhythms of music. It is a performance art that is also used for educational and curative purposes.
Steiner Education Australia

AUSTRALIAN STEINER CURRICULUM FRAMEWORK 2011

Educational Foundations
Attachment 3(b):

STEINER APPROACH TO CHILD DEVELOPMENT
KINDERGARTEN / FOUNDATION
POSITION PAPER

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Appendix A: Connection to the Early Years Learning Framework
Overview

In Steiner Education, Kindergarten is seen from the perspective of the three stages of childhood as the final year of the first stage as represented below.

<table>
<thead>
<tr>
<th>Kindergarten</th>
<th>Primary/ Middle School</th>
<th>Mid-Upper High School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth to 6 years</td>
<td>7-14 years</td>
<td>14-21 Years</td>
</tr>
</tbody>
</table>

Quality with which to pervade the learning. Child assumes world is imbued with…

<table>
<thead>
<tr>
<th>Kindergarten</th>
<th>Primary/ Middle School</th>
<th>Mid-Upper High School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goodness</td>
<td>Beauty</td>
<td>Truth</td>
</tr>
</tbody>
</table>

Area of Human Endeavour which integrates learning

<table>
<thead>
<tr>
<th>Kindergarten</th>
<th>Primary/ Middle School</th>
<th>Mid-Upper High School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence and Connection</td>
<td>Artistic expression of experience</td>
<td>Discerning, scientific approach to knowledge lifted to ideals</td>
</tr>
</tbody>
</table>

Role of Teacher

<table>
<thead>
<tr>
<th>Kindergarten</th>
<th>Primary/ Middle School</th>
<th>Mid-Upper High School</th>
</tr>
</thead>
<tbody>
<tr>
<td>One who is deeply connected to life with reverence</td>
<td>World Knowledge expressed through Arts</td>
<td>Ethical Researcher/Scientist</td>
</tr>
</tbody>
</table>

Teacher Works through……

<table>
<thead>
<tr>
<th>Kindergarten</th>
<th>Primary/ Middle School</th>
<th>Mid-Upper High School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intuition and connection in their presence and in their deeds.</td>
<td>Inspiration in their transformation of learning into artistic experience</td>
<td>Imagination in their transformation of concepts into living thoughts, pictures and deeds</td>
</tr>
</tbody>
</table>

Children make things their own most optimally through…

<table>
<thead>
<tr>
<th>Kindergarten</th>
<th>Primary/ Middle School</th>
<th>Mid-Upper High School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-directed Creative Play</td>
<td>Inner Pictures -Arts of drawing, writing, speaking, movement, music, painting, creating.</td>
<td>Thought which rises from the conceptual to the truthful image and then ideals which inspire action</td>
</tr>
</tbody>
</table>

Teacher works through/with the student’s faculty of

<table>
<thead>
<tr>
<th>Kindergarten</th>
<th>Primary/ Middle School</th>
<th>Mid-Upper High School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imitation of all that is good.</td>
<td>Openness to Authority (one who knows about the world)</td>
<td>Individual Judgement which seeks the ethical expert in the field as guide</td>
</tr>
</tbody>
</table>

Stage 1 contains within the seven years a developmental process as outlined in the Child Development Paper and reproduced below.

Physiological growth in Seven Year Stages – Stage 1 Birth to Seven Years

Further sub-stages can also be discerned at intervals of approximately two and a third years. At about two and a third years of age children experience their first awakened consciousness of self which is marked by their ability to refer to themselves as “I”. The realisation by children of their separateness from the world around them indicates that a sufficient degree of objectivity has been attained for the thinking capacity to become more active. By the end of this stage (by the age of seven) children are able to associate perception and cognition and have developed the first form of memory (Lievegoed, 2005). However the development of thinking comes to expression initially in the feeling life of children in the form of imaginative consciousness; in the next two and a third years (from 2⅓ to 4⅔) children begin to use their creative imaginations. From 4⅔ to 7 years of age (the following two and a third years) children awaken to their first conscious experience of the will: they are able to set and achieve goals for the first time.

Steiner Education sees the young child up to the age of 6 or 7 years as characterized by a gesture of trust and openness toward the world. This includes the capacity of the child to absorb sense impressions right into their being without the reflective or analytic skills of the older student or adult. This can be seen as a potent form of engagement and embodied learning. In Steiner Education a focus on bringing to consciousness the child’s perceptions and played-out wisdom is left until later years. This is considered to safeguard the very deep body-based learning in which they are engaged.
The Senses

Through the sense of life that the child experiences in self-initiated play with aesthetic materials and outdoor creative activity in the elements of nature, they develop what will mature into the soul quality of contentment and well-being which is a necessary state for the ability to think and reflect. Through strengthening their physical sense of balance in play they not only develop neurological readiness in the proprioceptive system\(^2\) for literacy and numeracy but also experience the counterpart of an inner balance at a soul level. Steady in building the wooden tower and balancing the branch on top of the upright log require an inner calmness, focus, and a weighing up. Climbing, running, twirling; in this movement a healthy sense of freedom and of moving towards one's goal is experienced.\(^3\)

The real world for the young child between 5 and 6 is one of vegetables growing in gardens and brisk breezes, rain and tall trees, cutting up vegetables and baking morning teas and impromptu plays and games.

While it is true that the children are protected from technological noise and computers at this age they are not protected from energetic, lively play and robust physical activities of building, gardening or crafts and exploring the world of bush or garden enthusiastically

Imitation

The curriculum for a Steiner Kindergarten is based on the understanding that the child learns through imitation. The openness of the young child, their reverence and their ability to absorb every nuance of what they experience, allow deep learning to occur. Through imitation they learn authentic home and garden skills and develop artistic and musical capacities. A growing consciousness of the world emerges through the teacher’s stories and Kindergarten work. They also experience and take in deeply as part of their education the gesture, attitude and atmosphere created by the teacher. The teachers strive to be worthy of imitation in all that they are and all that they do.

Imitation can take several forms. A young child might imitate someone’s actions directly. If a teacher is carding and spinning wool, for example, a child might also want to card and spin. Children might also imitate in their play the actions that they have encountered. For instance, a group of children might join together to form a moving company. They will pack up the toys in the kindergarten into a moving van that they have made of some chairs and boards and drive it to another land. Children also imitate our inner attitude. Kindergarten teachers therefore try to pervade everything they do with care. This will be reflected in the way they place an object on the seasonal table, or the way they put the toys away at clean-up time and make sure all the babies are tucked in and don’t have any cold toes sticking out. If parents and teachers approach common life tasks such as cooking or cleaning with reverence and care, children will develop a deep respect for work and for material things. If, however, such tasks are done quickly and sloppily, this will be reflected in children’s difficulties in finding meaning in life.\(^4\)

Child-Initiated Creative Play

All that the child has imitated becomes their own through self-initiated creative play. They do not reflect or conceptualise but take in the gesture and impulse and through their will express this in play. This immersion in life and ability to play bring embodied experience and learning at this age. There are two forces in the child at work. The child brings the capacity to imitate and also their own inner impulses to engage with the world in a unique, creative and potent way. This connecting together of what is experienced or revealed to the child about the world on the one hand and on the other the awakening and strengthening of what are essential individual impulses and gifts characterises a healthy education.

Young children love to play. Through play, they enter the activities of the adults around them. The best kind of activities for kindergarten children are therefore those that allow them to engage, on a child’s level, in the work of adults. ....: children are offered the possibility of participating in the traditional

\(^2\) For a review of the importance of movement, music and balance to neurological development and later literacy see the Educational Foundations Australian Steiner Curriculum Framework Attachment: Primary Position Paper.

\(^3\) Schoorel Edmund The First Seven Years; The Physiology of Childhood

\(^4\) Robert Trostoli Rhythms of Learning, Anthroposophic Press, 1998
activities that might take place in a home: cooking and baking, cleaning and washing, sewing and ironing, gardening and building. Because these activities are done rhythmically, they create a feeling of well-being and a sense of security in the child. Because they are real, they help a child become grounded in the realities of life. Because they serve a purpose and are filled with meaning, they help the child enter more fully into life at a later age.

The materials and toys in a Waldorf kindergarten stimulate the children to use their powers of imagination and fantasy. As these powers are developed, children become able to transform natural materials into any kind of toy. They can use pieces of wood that have been left in their natural shapes as tools, musical instruments, telephones, vehicles, tickets to a performance, food for a feast, or the gold and jewels of a buried treasure hidden by pirates.

If one observes children playing with toys that have a great deal of detail, one can see that there is a different quality to the play. .... If, for instance, children are given a toy yellow taxicab, they are likely to limit their play to activities involving a taxi. If, however, they are given a plain wooden car... The possibilities are endless, limited only by the children's imagination. 5

Research 6 suggests that those who score highest in socio-dramatic play (which involves make believe, transformation of objects and verbal expression) also show greatest gains in later cognitive and creative capacity, intellectual competence, socio-emotional skills. Observers have recognised twelve types of play 7 which develop movement, creative, language, artistic and imaginative skills and expression. Creative play may correlate with later psychological adjustment. 8

It is the free nature of self-directed play that fosters creativity. It has been suggested that structured play such as board games may foster higher motivation, persistence, sophistication of oral language and creativity as self-directed play. 9

Rhythms

For young children to be able to connect to the participatory consciousness that allows immersion in the life and gesture of the world and also allows them to be engaged in self-initiated imaginative play they need to be held in a secure rhythm and warm aesthetic environment without overstimulation. Rhythm brings reassurance and continuity as well as trust in the unfolding of life. A sense that here there is time to do things beautifully is cultivated in the Steiner Kindergarten.

Children’s healthy habits are supported by repetition of authentic tasks and their memory is strengthened by recurring meaningful events such as festivals. Memory is considered to move through three phases in line with the three divisions of this stage: place memory (where events happen and the surroundings), rhythmic memory (verses, songs, movement) and picture memory (stories, descriptions creating an image in the mind. 10

A daily rhythm would usually include:

Circle Time: music, speech and movement
Indoor Self-directed Creative Play
Home Activities: Cooking, Morning Tea, Baking, Tidying
Artistic Work: Painting, Beeswax Modelling or Crafts
Outdoor Play in Nature,
Lunch
Story
Bushwalk / Games.

The curriculum is interwoven in these activities in a natural way.

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6 Smilanski, Sara in Almon, Joan The Vital Role of Play in Early Childhood 2000
7 Breipohl, Renate in Self-Directed Play Waldorf Association of North America 2010
8 Highscope Educational Research Foundation Michigan; Stuart Brown; National Institute for Play
9 Anthony Pelligrini The Role of Recess in Childrens Development and Education
10 Schoore, Edmund The First Seven Years: The Physiology of Childhood
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Learning in a Steiner Kindergarten

**Kindergarten Curriculum: English**

In a Steiner Kindergarten language is developed in children through *stories of the literary heritage* of childhood told for several days, nourishing the memory forces. The traditional and classical stories as well as teacher created and modern ones are carefully memorised and told with focus on a well-modulated voice. The richness of the language helps extend vocabulary and the beauty and rhythm of the language develops the aesthetic sense. A rich repertoire of songs, poems and verses are experienced in the daily morning circle.

As well, daily *self-directed play* time requires rich oral communication between children in cooperative play scenarios. The language is specialised and ever changing as each day brings new imitated life experiences and children are highly motivated to communicate to engage their friends and fulfil their imaginatively planned play.

**Morning Circle** is a daily time of imitated songs, poems, movement, action rhymes and finger plays. The repertoire has a seasonal mood and is carried by a cohesive theme with appropriate gestures, and music.

The ability to find one’s voice in later life is built upon experiences of potent language which is meaningful and connected to the world and humanity. Expressive qualities develop when beautiful speech is heard and imitated. Later subtle complexities of thought are facilitated by the rich and finely formed language structures of the teacher.

**KINDERGARTEN CURRICULUM: HISTORY**

Children come slowly into the experience of time in an authentic way through the unfoldment of daily, weekly and seasonal rhythms in rhythmic circle work, stories, crafts and seasonal celebrations. Their observation and involvement in traditional handcrafts brings experience of past ways of life. Their understanding of community grows out of the close connection between the Kindergarten and home when parents and grandparents participate in activities and festivals.

When children are allowed to awaken to time as a real experience of the earthly and cosmic cycles then it gains meaning in the context of human unfoldment. The experience of past traditional ways of life through crafts and stories also builds living pictures which can grow throughout the curriculum.

**Kindergarten Curriculum: Science**

In Kindergarten children are provided with opportunities to experience and interact with the natural and humanly created world through self-directed play, outdoor exploration, nature festivals and authentic home and garden activities as well as stories, action rhymes and games.

Science and its strands are not taught as a subject but the Kindergarten experience provides a rich and appropriate exploration of the world through the carefully created environment of garden, bush, animals and elements of water, earth, sand, warmth and air. The rhythms of the world and the cosmos are experienced through rhythms and festivals and the self-directed play of the children allows them to imagine, create, and build diverse structures. In cooking, composting and craft work they mix and transform substances.

Each aspect of the world is brought through exploration and observation through the senses. Through self-directed play and communication the children investigate, describe informally, cooperate, build and create rich and evolving scenarios in the world.
The ACARA Curriculum – ACARA strands of Science Understanding, Science as Human Endeavour and Science Inquiry Skills can be identified in the Steiner Curriculum in a fully integrated way in the elaborations. These are found in the Stage-wide Topics of Festivals, Celebrations and Rhythms of Time; Handcrafts of the Traditional World and Outdoor Play, Bushwalk and Home and Garden Activities. Below they are identified in strands which equate to Biological Sciences, Chemical Sciences, Earth and Space Sciences and Physical Sciences.

Kindergarten Curriculum: Mathematics

Mathematics in the Steiner Kindergarten is not a separate subject but an integrated experience in a play-based curriculum. Teachers are aware of the numerical and geometric qualities of the world and engage children in authentic Home and Garden activities and in Stories and Circle Time which bring these qualities to the children in an authentic and meaningful way. Movement and number rhymes and games in morning circle, number-based stories and imitated work in cooking, drawing, beeswax modelling and craft all allow development of mathematical experience and skills. In self-directed play these experiences are integrated and creatively expressed by the child.

Number:
Rhythmic work of number rhymes and games, number related stories which are heard and played out, and finger games and action rhymes are one area of number development. Conversation between children creatively weaves in numbers- How many children are here today? I have 5 rice crackers. Play also affords rich and ever changing opportunities for counting eg how many children will fit into the cubby; shell paths are sorted into pairs of increasing size laid out with one to one correspondence. Home and garden activities use counting in eg the number of cupfuls in cooking or the number of watering cans to share to take to the vegetable garden.

Measurement/Geometry:
Spatial awareness is developed initially through one’s own movement in space. Measurement happens informally as children play- Will the log fit in the house? There are 5 steps to the door. Weekly baking brings weighing and measuring of spoonfuls or cupfuls and in gardening the bucketfuls of soil and arrangement of flower and vegetable beds in neat rows or circle forms bring real life geometry and capacity. Beeswax modelling allows experience of 3 dimensional forms which metamorphose from one to another. Crafts of lantern-making, sewing and finger-knitting baskets all involve forms. Ordering of rhythms of time occurs in the unfolding cycles of day and night, days of the week, and in the seasons which are the focus of stories and songs, craft and festivals.

Statistics and Probability:
Statistics is the gathering of data about the world and its presentation in a meaningful way. Children first go through a stage of immersion and then slowly awaken to conscious perceptions which are named and ordered. There must be a balance between these two elements. Play, involvement in daily tasks and teachers work all allow natural unfoldment of ordered perception and presentation of information.

Music, speech, story and movement based number experience develop embodied knowledge. Future work with algebra will depend on being able to elaborate, imagine and balance two sides of the equation. The sense of balance in forms made in creative play and in movement is a necessary step towards that skill.
Appendix A

Connection to the Early Years Learning Framework Australia
Steiner Schooling deeply connects to and considers the transition from Early Childhood as the child moves toward the world of formal schooling. The Steiner Kindergarten Curriculum is designed on the understanding that:

- A bridge is built that gives security, trust and a harmonious and gentle transition to a school learning environment.

- The principles, practices and outcomes of Early Years Learning, are optimally enriched for the 5-6 year old child or first year of formal school attendance and can find an extension which is both age-appropriate and valuable.

- This bridge is optimal in its alignment with child development and learning research for this age which suggests that early literacy work (age 5-6) is best oral language centred and play-based until the proprioceptive system (6½ - 7 years) is developed. In addition left brain development and myelination (7-8 years) as well as the development of the corpus callosum are needed for full literacy and numeracy skills 11.

- Research suggests that this extended transition is not detrimental to long term cognitive or literacy skills. The Steiner Kindergarten approach is in alignment with recent recommendations of the Cambridge Review 12 which notes that five is too young to leave behind active play-based learning and embark on formal subject-based curriculum. It recommends extending the Early Years Framework in England for one year. It notes that in 14 of the 15 countries that scored higher than England in a major study of reading and literacy in 2006, children did not enter school until they were six or seven. On average only 16 per cent of European Union five year olds are in school.

EXTENDED EARLY YEARS LEARNING in the Kindergarten/Foundation Year
In Steiner Schools educational practice recognises that children of 5-6 years benefit particularly from extended opportunities to continue to develop the outcomes of the EYLF:

Outcome 1 - Children have a strong sense of identity
- regularly initiate cooperative and sharing behaviours and persist in a sustained way with creative challenges over time and with others.
- Explore increasingly rich and diverse roles and identities and transformations of identities in creative play
- work in groups with increased sensitivity and harmony
- develop deeper reflective moments harmonising their own actions in relation to others

Outcome 2- Children are connected with and contribute to their world
- form and reform creative communities within their child-initiated imaginative play and contribute to their class community through helping prepare meals and tidy the space.
- visualise, plan in cooperation and negotiate in the implementation of rich and extended play based scenarios.
- undertake larger and longer journeys out into the wider school community from their safe and secure base with confidence and trust.
- Participate in an increasingly diverse range of cultures, festivals and traditions.
- Practice compassion and kindness sensitively imitated from their surroundings.
- Explore their environment actively and with care, participating in rich relationships between the natural environment and other living things.

11 Goddard-Blythe, S The Well Balanced Child Hawthron Press 2004
12 Cambridge Review
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Outcome 3  **Children have a strong sense of well-being.**

- Show an **increased capacity** to adjust their behaviours in light of the feelings and needs of others and experience and demonstrate trust and confidence in **diverse situations**.
- Experience joy, humour and laughter in a range of classroom situations from story to drama and play.
- Remain calm and resilient in the face of challenges and frustrations and actively interact using their **growing independence**.
- Engage in **increasingly rich and diverse sensory experiences** in exploring the wider world.
- Integrate **gross and fine motor skills, spatial awareness, sense of balance** and creative expression in play, dance, creative movement and drama.
- Use **authentic equipment and tools with increasing responsibility safety** for Kindergarten cooking, cleaning, gardening and building.
- Connect with familiar characters and situations in stories in which **resolution of challenges occurs**.

Outcome 4  **Children are confident and involved learners**

- **Dispositions** - Maintain a sense of wonder, creative playfulness, enthusiasm, commitment and curiosity while their ability to focus on the exploration of the world **becomes more detailed and inquiry or goal oriented**.
- **Skills** - Explore, experiment, predict and balance diverse situations in their self-directed play.
- **Transfer knowledge** gained from one experience or situation to another.
- **Connection** - Explore more diverse ideas using the senses, imagination, creativity and play on their own and in rich shared relationships.

Outcome 5  **Children are effective communicators**

- Use language in **rich and diverse ways** in interactions to communicate ideas, feelings, imaginations and understandings including mathematical concepts such as attributes of objects.
- Engage in singing, verse, rhymes, storytelling and dramatic play using rich sound and language patterns and use the creative arts to express ideas or experiences.
- Experience **increased trust and security** in rhythms or patterns over time.
- Express in their play, explorations of order, sequence and balance of sets of objects of the natural and aesthetic world and **use more creative real or imaginary technologies in play** to solve problems and enrich creative possibilities.

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The Australian National Steiner Curriculum recognises that the following developmental considerations of the child from 5-6 support the extension of the Early Years Framework.

- The ability to hold a sustained inner picture on which to plan play becomes increasingly possible. Not just fantasy in the moment but an extended scenario with sustained concentration in which all components are created out of an inner picture. Eg the bus trip- the bus is built, a ticket book made, bus driver hired and passengers seated.
- Increasing cooperation in this more complex play and oral communication is possible as children are recruited to help and then come with ideas- ‘the bus has a compartment for suitcases’, ‘the bus will stop at the beach.’
- More complex crafts, creative skills and technical explorations are possible eg designing a pulley to get the stones up to the top of the mountain in a basket, putting all the shells in ascending size in spirals around the lake, digging tunnels and making locks for water to travel along in the sandpit.
- Developmental steps in language and the ability to think in pictures allow self-directed dramatised stories and puppetry to be created in the act of telling them as a precursor to the later writing of stories.
1. **Imaginative consciousness:** The young child’s consciousness differs from the adult’s – it is more like an adult’s day-dreaming consciousness - Steiner education calls this “imaginative consciousness”. Imagination is understood to be a capacity that can be developed through phenomenological (Goethean-style) observation and arts training. In adults imagination is understood to develop artistic inspiration and spiritual insights; in children imagination refers to a capacity to be creative in play and learning and to form inner mental images (these do not have to be visual). See the note below.

   ii **Creative imaginations:** The imaginative flow of a young child’s consciousness runs along with the creative stream of life. “Participative consciousness” (which is characteristic of the earlier stage of the baby and toddler) is the type of consciousness associated with deep sleep – it is the most unconscious mode of awareness. We know this level of awareness from tasks that once learnt we are able to perform automatically. Athletes and sports people call “participative consciousness” being in ‘the zone’. It is not possible to be analytical when one is performing a learnt physical skill and yet we can experience that we are in a stream of knowing consciousness. “Imaginative consciousness” is one level more conscious – whereas participative consciousness relates to the sphere of the will – imaginative consciousness relates to the feelings. This is the awareness of the artist and poet who know how to switch off their critical thinking while they draw on the creative stream of consciousness. This too is the level of awareness of the young child – they are able to slip into a creative flow of awareness that informs their play.
Primary School Curriculum Position Paper

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Conclusion
1. The Nature of Curriculum

The Australian Steiner Curriculum Framework, Primary School, is designed to be experiential, narrative based and arts integrated. The underlying pedagogy, in harmony with the Melbourne Goals, values deep learning, the development of imagination and creativity as well as the individual development of ethical and social qualities.

In a vibrant, artistic learning community, primary age children respond with enthusiasm to creative teaching.

But what are schools for if not to make children fall so deeply in love with the world that they really want to learn about it. …In a proper school no fact would ever be presented as a soulless one, for the simple reason that there is no such thing. Every facet of reality, discovered where it lives, startles with its wonder, beauty and meaning.

Marjorie Spock (1973)¹

This curriculum is a framework, albeit with rich indications for elaboration and insights into deeper paradigms of development. Beyond this framework is what happens in the classroom, as expression of the teachers own creativity and the student’s inner impulse for development.

In the Waldorf Curriculum it is not the content of the lessons that is the important thing but rather the soul forces² that grow while being occupied with it. But whosoever says that the curriculum is not so important because we are not primarily concerned with content looks at the matter only superficially; in fact the content is recommended because it is with the content that we can gain what is more important for life.³

2. Child Development Overview

The study of child development forms the underpinning of the curriculum. In this respect, for example, an understanding of optimal times for different learning approaches and development of different skills would be found and applied across the curriculum.

Steiner education is founded on the principle that everything is in development, both physical and spiritual and that this development while broadly linear in progression is also characterised by cyclical or spiral growth and times of metamorphosis and transformation.⁴

Will or Initiative, Feeling and Picture Thinking in the Primary Years
In Steiner schools the recognised 7 year stages of child development can be viewed from the aspect of the three soul faculties of will or initiative, feeling and thinking. The primary school years from 6 or 7 years of age until 12 are within the second phase in which feeling predominates over thinking and will. The will is still active but ‘doing’ and playing are no longer the main forms of learning as they were in the Kindergarten. The ability to think in pictures grows stronger and the ability to visualise story content and processes therein is a rich potential of imaginative learning. The feelings are awakened in these stories, deepening the engagement of the children. It is not until the High School years that the thinking is developed and freed. This leads to the search for truth, the forces of idealism, as well as the logical and abstract thinking that emerges in the adolescent.

The Journey toward experience of the Self at Nine Years
In concert with the development of these faculties there is also the growth toward self-awareness. Steiner Education recognises significant times of ‘awakening to self’ at around 3, 9 and 16 years of age which

² See Educational Foundations Glossary
³ (Trans) Berenson, M. Working Material for the Class Teacher. Study Material of the Pedagogical Section and the Pedagogical Research Center.
⁴ Mazzone, A. 2010 Draft for Publication
© SEA: ASCF EDUCATIONAL FOUNDATIONS: att. 3c Primary Position Paper
were identified by Dutch psychiatrist Lievegoed as a progression from 'self-awareness to self – experience and then self-realisation'.

The shift to self-awareness around 3 years is most notably recognised in the child of 2-3 years for the first time speaking of themselves in the first person as 'I'. The point at around 9 years leads to a new strength of self and more objective consciousness. At 16 years of age there is the possibility that, along with the growing depth of discernment and the strengthening ideals, a sense of the realised self can arise.

Three Phases of Childhood and the Threefold Curriculum

<table>
<thead>
<tr>
<th></th>
<th>Kindergarten Birth to 6/7 years</th>
<th>Primary/ Middle School 7-14 years</th>
<th>Mid-Upper High School 14-21 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality with which to imbue the learning. Child assumes world is imbued with...</td>
<td>Goodness</td>
<td>Beauty</td>
<td>Truth</td>
</tr>
<tr>
<td>Area of Human Endeavour which integrates learning</td>
<td>Presence and Connection</td>
<td>Artistic expression of experience</td>
<td>Discerning, scientific approach to knowledge lifted to ideals</td>
</tr>
<tr>
<td>Role of Teacher</td>
<td>One who is deeply connected to life with reverence</td>
<td>World Knowledge expressed through Arts</td>
<td>Ethical Researcher/Scientist</td>
</tr>
<tr>
<td>Teacher Works through...</td>
<td>Intuition and connection in their presence and in their deeds.</td>
<td>Inspiration in their transformation of learning into artistic experience</td>
<td>Imagination in their transformation of concepts into living thoughts, pictures and deeds</td>
</tr>
<tr>
<td>Children make things their own most optimally through...</td>
<td>Self-directed Creative Play</td>
<td>Inner Pictures - Arts of drawing, writing, speaking, movement, music, painting, creating</td>
<td>Thought which rises from the conceptual to the truthful image and then ideals which inspire action</td>
</tr>
<tr>
<td>Teacher works through/with the student’s faculty of</td>
<td>Imitation of all that is good.</td>
<td>Openness to Authority (one who knows about the world)</td>
<td>Individual Judgement which seeks the ethical expert in the field as guide</td>
</tr>
</tbody>
</table>

5 Mazzone, A. 2010 Draft for Publication
3. The Curriculum Sequence and Alignment with the Development of Human Consciousness

From the dream-like picture, through fully conscious abstraction to an equally fully conscious imagination: this is the evolutionary course of human thinking.⁶

As Steiner educator, Alduino Mazzone,⁷ points out, the Steiner curriculum is designed to follow the development of human knowledge and capacities sequentially and in so doing bring the children into the stream of time up to the present.

From the dream-like picture consciousness of the Fairy Tales and Legends to the Fables and then myths of the historical epochs from Ancient India through Persia, Egypt Greece and Rome to objective historical biographies of our times the human journey unfolds. So to do the paradigms of the Sciences and Mathematics keep pace with their historical counterpart in the development of human consciousness.

4. Integrated Teaching: The Main lesson and Three-fold Rhythms of Learning

The Main Lesson is a vehicle for integrated teaching. A particular subject is studied for 3-4 weeks to allow for a deep and enriching learning experience. It is taught in the first two hours of each day and may involve integration of the humanities, sciences, mathematics and arts. In the Australian Steiner Curriculum Framework the Topics may be presented as Main Lessons in the form given or in other combinations of Content Descriptions. They will normally be followed by a series of practice lessons with skills arising out of the content.

The 3-day or 3-fold method is employed by Steiner Primary School teachers in Main Lesson. First the children experience the new learning, then it is expressed pictorially and through the feelings and finally the understanding becomes conscious.

- new material is presented through story images, concrete learning experiences or phenomenological observation (in later years)
- This is recalled the second day and integrated through drawing, music, movement or drama.
- then children create a written or practical record of the material which has become deeply integrated

This methodology is supported by recent research that suggests that during sleep there are clear neurological indicators of rehearsal, integration and the movement from short to long term memory. The success and depth of these processes is dependent on the artistic quality, meaningful context and emotional connections to the material learnt. Isolated skills, unrelated data and neutral concepts imprint least successfully.

5. Imagination, Creativity, Beauty-Alignment with the Liberal Arts

Liberal Arts and Steiner Education

Steiner Education's breadth of curriculum, the central role of imagination and creativity, the focus on the visual and performing arts and inclusion of richness of classical literary sources give it much in common with a liberal arts education. This is however not at the expense of achievement of basic skills at the age appropriate times.

The work of the Thomas B Fordham Institute⁸ points out that the dilemma of a skills approach is that it narrows the curriculum content which gives rises in the short term literacy skills but a fall in the middle grades and high school where a rich knowledge base and understanding are paramount and decoding, phonics and comprehension skills do not on their own suffice. This knowledge, they recognise, comes from a rich content of cultural history, geography, the arts, languages and literature.

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⁶ Steiner, R. Lecture August 20, 1922.
⁷ Mazzone, A 2010 Draft for Publication
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In this report Dana Gioia also speaks for creativity, self-realization of potential and the role of the arts.

“The real purpose of arts education is to awaken us to the full potential of our humanity both as individuals and citizens in society. Incorporating the arts into other subjects can enliven the classroom. Pleasure, beauty and wonder are not out of place in a history class. These qualities are not decorative to learning: they are essential.”


Neurological Development studies suggest that the proprioceptive and vestibular systems must be well developed through extended time for movement such as running, gardening, climbing, swinging and skipping so that letter and number shapes can be visualised and imprinted. Studies suggest immature vestibular functioning may correlate with letter reversals, dyslexia, and language and attention disorders.

Now, when these children (with well-developed vestibular system) look at the shapes of letters and numbers, their eyes will follow and track the lines and curves. The memory of these movements will then imprint upon their mind. They will have the capacity to make mental pictures or images of these numbers and letters. The correct orientation of the letter or number will be seen within the mind before it is written.

Studies suggest that the right hemisphere maturity at age 5-7 which allows sight words to be recognised is not sufficient for reading. The left hemisphere matures around 6 – 8 and allows phonics and decoding to be utilised efficiently in reading. Not until the corpus callosum has been developed can reading, comprehension, visualisation and recall of material function fully.

Music and Learning

The Australian Steiner Curriculum Framework integrates music into all Learning Areas including mathematics and sciences and it is built into the daily morning circle of rhythmic activities which takes place at the beginning of Main Lesson.

Researchers have found a causal link has been found between music learning and spatial temporal intelligence (Rauscher & Shaw 1996, 2003) and music programs and increased phonological awareness and word recognition (Bolduc 2006). Playing of musical instruments is a complex skill and has been found to involve more right and left brain functions than any other activity (Habermeyer 1999). It seems that gains in strength of verbal memory after instrumental tuition in music are retained even a year later.
In the Australian Steiner Curriculum Framework, scaffolding of literacy skills and support for developmental unfoldment are implemented through:

- A strong self-directed creative play component with opportunities for extended social interaction and oral language in Kindergarten.
- A rich music program with daily singing, instrumental music and movement with all children learning an instrument throughout primary schooling.
- Morning circle with rhymes, games and verses with phonemic sound play and substitution.
- Listening to quality traditional and classical stories with rich expression and vocabulary.
- Extended outdoor movement time with diverse opportunities for climbing, running, jumping, building, gardening, bushwalking and nature play.
- Form Drawing which practices movements which balance and develop directionality, visualisation, metamorphosis of forms and flow of patterns.
- Timing of introduction of reading through oral language then writing then reading.
- Imprinting of letters through movement, picture association through images in stories.
- Sequential reading development through reading of own writing, reading of teacher created and prepared books and then introduction of quality readers.
- Sequential skills development through eg phonics, sight words, digraphs, blends, morphemes and prefixes and suffixes.
- A love of stories and reading developed through daily immersion in stories.

7. The Senses and Learning

The Australian Steiner Curriculum Framework recognises the importance of the senses for rich and deep interaction with life and for learning itself.

The Need for Sensory Enrichment and Integration of Experiences in Curriculum

The deterioration of the senses in human neuro-physiology is an area little mentioned or researched. If the processing of information from the senses is, through bombardment of stimulation in modern life, changing in such a way that perception and integration is effected then a fully integrated arts-based curriculum, may be able to ameliorate these effects.

As Michael Kniessle\(^\text{18}\) reported, scientists discovered that the senses of taste and smell had degenerated significantly with previously recognised sensations now not being accepted. Further to this in the eighties there was another dramatic development as greater action potential was needed for the brain to be stimulated. There may also be alterations to internal strategy of the brain, with cross linkages reduced and stimulus carriers working in parallel (Rau)\(^\text{19}\) so that they are not adequately networked or enhanced with emotions\(^\text{20}\).

The Principles of Steiner Curriculum can be viewed as a counterbalance which focus on reducing bombardment, providing natural sensory experiences and those which unfold over time eg

- planting and looking after a vegetable garden and observation of plant growth,
- building a small structure in the school by hand,
- acoustic instrumental music,
- crafting natural knitted, felted and crocheted projects,
- observation of the sky phenomena over extended lunar and solar cycles.


\(^{19}\) Dr Harold Rau Institute of Medical Psychology at the University of Tubingen.

Steiner Curriculum also allows a healthy integration through cross-curricular learning experiences which will synthesise what has become disjoint. Specific cross-domain activities require establishment of neural pathways for the senses to work together.

8. Arts Integration

In the Australian Steiner Curriculum Framework the arts are fully integrated and part of the methodology of all Learning Areas. They are not seen as additions to teaching practice through an external arts partners but part of the class teacher’s role. They are not a weekly extension of a theme or developed to illustrate learning. Nor are they there primarily to develop motivation or to meet different learning styles though these are undoubtedly advantages that follow. Movement, speech, music, drawing or handcrafts are part of every Main Lesson and nearly all specialist or practice lessons.

The lessons where the arts are embedded are seen to provide optimal learning experiences. Since the conceptual realm is not, until after the 12th year, the optimal approach to knowledge then the importance of the arts as a learning experience and embodied form of knowledge becomes central. In the child between 7 and 14 the arts, through providing spatial, tonal, rhythmic, colour and sculptural experiences of form, gesture, relationship, growth, transformation, meaning and beauty, are fully embedded in every content organiser table.

Current research increasingly supports arts integration on a whole school. Studies such as Critical Links 21 show the importance of multi-modality or cross-domain encoding of information which leads to deep learning.

Storytelling, drama, poetry, visual arts, music and movement are integrated into, not only mathematics, but reading, history, spelling and each other area of the curriculum. Arts enrichment happens at each moment in the classroom with the class teacher.

Results from Arts Integration Programs support this approach. As indicated by Eric Oddleifson 22 (Chairman of the Center for the Arts in the Basic Curriculum) work such as Gardner’s Theory of Multiple Intelligences has helped extend the arts integration programs in many schools. His thoughts provide an overview of this rapidly growing area of educational reform.

“Stanford’s Elliot Eisner suggests that our difficulty in recognizing the benefits of the arts comes through our own fundamental misunderstandings about the very nature of mind, knowledge, and intelligence. Besides believing that language is required for thought, we think that logic is necessary to express intelligence. Not true. Poetry, which employs language, is not only not necessarily logical, but considered by many to be the highest form of thought. We believe that the senses are mere receptors of stimuli, to be mediated and “made sense of” by intellect. Not true. Both the cognitive psychologists and neurologists … now know that the senses are direct forms of cognition, and understanding.”

Citing Waldorf or Steiner Schools as examples of arts integrated schools, Oddleifson 23 mentions their success in exam scores in Germany where 40% of over 1,000 Steiner graduates (compared to the national average of 6%) qualified to skip their freshman year due to sufficiently high exam scores. He goes on to quote Ernest Boyer

One of the strengths of the Waldorf curriculum is its emphasis on the arts and the rich use of the spoken word through poetry and storytelling. The way the lessons integrate traditional subject matter is, to my knowledge, unparalleled. … It is an enormously impressive effort toward quality education.

21 Critical Links
23 ibid
He then quotes Thomas Armstrong, author of Multiple Intelligences in the Classroom:  

Waldorf education embodies in a truly organic sense all of Howard Gardner's seven intelligences. Rudolph Steiner's vision is a whole one, not simply an amalgam of the seven intelligences. Many schools are currently attempting to construct curricula based on Gardner's model simply through an additive process (what can we add to what we have already got?). Steiner's approach, however, was to begin with a deep inner vision of the child and the child's needs and build a curriculum around that vision.

Multi-modality, cross domain and multi-literacy research has much to offer the understanding of the efficacy of what Steiner Education implements.

9. The Central Role of Narrative

The role of oral storytelling in the Australian Steiner Curriculum Framework is paramount. It is placed in each Main Lesson Morning as the source of learning of history, of humanities search for meaning, of mathematics, literacy and natural science. The role of narrative as a central part of teaching method in the primary years – finds support in the work of imagination in learning by Kieran Eagan in Canada with his phases of somatic, mythical and romantic which precede the philosophic and ironic. He conceives that curriculum could be thought of being constituted of the great stories of the world. Especially in the early years he recognises that the young child can understand much more in story form than they can in isolated abstract concepts.

It may be that the typical 5 year old could not adequately define loyalty or courage but they use such concepts clearly in making sense of all kinds of stories. There is sense in which we might say that children understand such concepts so profoundly that they make sense with them.

In the Steiner Curriculum we acknowledge that it is the rich archetypal picture thinking of the young child that finds meaning in the experiences of these stories while the concept finds its place later in childhood.

He also notes that richness of children’s oral language including poetry and story is both a fertile development ground for later literacy learning through rhyme, rhythm, proverb and metaphor as well as providing a rich measure of their intelligence.

He notes that in our cultural history rationality did not displace myth but grew out of it and suggests that if we wish to develop a later rich rationality we should attend to this historical development in individual development. Steiner education has followed this developmental picture for many decades and teacher research upholds his insights.

.. curriculum then might be characterized as constituted of the great stories of the world. The world they are to make sense of has a vivid and dramatic history, and I think we can relatively easily reconceive our primary curriculum in terms of telling children the story of science and technology, the story of mathematics, the story of history, the story of art, and the stories of all our ways of sense-making. This requires our reconceiving these areas of sense-making in terms of those oral capacities children have already most highly developed, rather than, as we tend to do, in some logical scheme beginning with what seems to us the simplest logical components and working "up" from there. Third, we reconceive teachers, not as increasingly de-skilled purveyors of prepared texts, worksheets, and tests, but rather as our culture’s story-tellers.

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24 ibid
9. Conclusion

The principles of Steiner Education have found resonance in the increasing professional and public awareness of the importance and efficacy of rich, creative and imaginative learning in childhood. Through looking at substantial recent public reviews these methodologies find support as concern grows about the focus on early academic learning and the marginalisation of the arts.

Steiner Primary Curriculum and Methodology are well positioned to overcome the apparent conflicts between the need for a rich and broad curriculum which nurtures creativity as well as time for learning age appropriate academic skills which reach the necessary high standards in middle childhood. The arts based fully integrated curriculum allows for deep learning of skills through multi-domain experiences and includes the rich oral language traditions of our cultural history.
Steiner Education Australia

AUSTRALIAN STEINER CURRICULUM
FRAMEWORK 2011

Educational Foundations
Attachment 3(d):

STEINER APPROACH TO CHILD DEVELOPMENT
HIGH SCHOOL POSITION PAPER
High School Curriculum
Position Paper

Contents

Experiential and active skills learning

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Introduction

The guiding motif for this period is that of Truth: the focus shifts towards critical analysis, independent judgment and self-directed tasks. Students have greater self-awareness in relation to their strengths and weaknesses, interests and goals. Adolescents respond positively to inspiring and worthwhile ideals that provide them with sustenance for their inner journey. They are motivated to contribute towards community life and are concerned about significant social, environmental and global issues. The phenomenological methodology directs students towards an objective understanding of the principles of the natural and cultural worlds; they practice viewing the world from a range of perspectives. It is the making of judgments in particular that helps students to form a relationship between their inner lives and the outer world. For students to be able to trust their own judgments the thought content needs to be accessible – teachers therefore select content where ‘objective laws’ and the ‘true nature of phenomena’ can be experienced and made conscious.

Students experience real selfhood for the first time; the acuteness of their new level of self-awareness and self-criticism often leads them to hide their new persona carefully and to use fashions as masks. As forces of growth penetrate the metabolic-limb system sexual development takes place. The accompanying hormonal changes introduce disequilibrium: as the will is not yet strong enough to direct their emotions this is the age of extremes and polarities: students swing between the past and the future; the old and the new; independence and group security.

Earlier strategies continue to be used on a more sophisticated level. Research\textsuperscript{1} indicates that during adolescence another window of opportunity is presented for imaginative development, the arts-based teaching methods as well as experiential and discovery learning strategies are followed. Although curriculum content is mostly aligned with state requirements, there are several aspects of the Steiner approach to this stage that are different and characteristic of the overall holistic and integrated orientation.

Experiential and active skills learning

Researchers have found that after two weeks we remember only 10% of what we read, but 20% of what we hear, 50% of what we discuss, and 90% of what we experience. This is one of the most persuasive arguments for experiential, project-based learning (Fritjof Capra, 2004; cited by Fairman, 2006).

Experiential learning, as popularised by David Kolb (1984) who drew on constructivist theories and the work of John Dewey, Kurt Lewin and Jean Piaget, is aligned with aspects of the original pedagogical indications. John Dewey’s emphasis on making, doing, creating and producing resonates strongly with Steiner’s observation that given the “accelerating influence of scientific technology and academic sterility upon education”, it would be of great importance “for the future of the new school movement ... to turn the rudder 180 degrees in the direction of the artistic and the practical” (Karl Ege, 1979; cited by Fairman, 2006).

If we were to introduce into educational processes the activities which appeal to those whose dominant interest is to do and make, we should find the hold of the school upon its members to be more vital, more prolonged, containing more of culture. If our education is to have any meaning for life, it must pass through an equally complete transformation (John Dewey, 1915; cited by Fairman, 2006).

\textsuperscript{1} Chiltern Pearce (2004) using the research of Paul Maclean observes that the pre-frontal lobes go through a spurt of growth nearly as dramatic as that in early childhood.
It is interesting to compare Kolb’s experiential model with Steiner methods:

<table>
<thead>
<tr>
<th>Kolb’s experiential model</th>
<th>Steiner method</th>
<th>Hoffman’s model (2007)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concrete experience</strong></td>
<td>Active skills learning</td>
<td>Earth cognition, physical thinking, mechanical</td>
</tr>
<tr>
<td><strong>Reflective observation</strong></td>
<td>Understanding and characterisation</td>
<td>Water cognition, imagination, sculptural</td>
</tr>
<tr>
<td><strong>Abstract conceptualisation</strong></td>
<td>Cognitive awakening, concept formulation</td>
<td>Air cognition, inspiration, musical</td>
</tr>
<tr>
<td><strong>Active experimentation</strong></td>
<td>Return to step one: active experimentation</td>
<td>Fire cognition, intuition, poetical</td>
</tr>
</tbody>
</table>

**Curriculum perspectives related to experiential and skills learning in High School:**

**Opportunities for involvement with community, social support networks, and service learning**

The main characteristics about the ‘place-based’ approach is that it sets out to involve the students in connecting with family, community and the local region by extending the classroom out into the community. At the same time, students are afforded the opportunity for developing and experiencing hands-on, real-life experiences. Learning is centred on authentic activities which correspond directly with tasks and life in the community, and which have an evident relationship with workplaces of today and the future. This approach enables students to more easily see that what they are engaged in and has a relevance to their own world.

**Physical education includes sports, games, and Bothmer gymnastics.**

Outdoor education and adventure camps: canoeing, skiing, surfing, abseiling, hiking, camping

In recent years, farsighted educators and environmental organizations have made important inroads into the classroom. Experiential, environmental-based, or place-based education offers a promising alternative. Proponents of the arts revival in schools have successfully argued that the arts stimulate learning in math and science. Based on early research, a similar argument could now be made that nature education stimulates cognitive learning and reduces attention deficit (Richard Louv, 2005).

**Artistic forms of movement include: dancing, drama, speech and eurythmy**

In the context of high-stakes testing and performance outcomes pedagogical voice and language reflexivity are not high on educational agendas. Yet, research suggests that sustained exposure to electronic ‘voices’ – television, computers and electronic games – may impair early speech development (Clouder et al., 2000; Healy, 1998; Pearce, 1992). While not advocating the elimination of the latter, more creative attention to the nuances of the living word could facilitate postformal language sensibility at appropriate developmental moments (Gidley, 2009).

**Training, practice and creative opportunities for ICT skills to develop and to become increasingly refined and complex.**

Technology training encompasses handwork, woodwork and metalwork (all classes include both genders).

Farm and work experience programs.

During the age from fifteen to twenty everything to do with agriculture, trade, industry, and commerce will have to be learned. No one should go through these years without acquiring some idea of what takes place in farming, commerce and industry. These subjects will be given a place as branches of knowledge infinitely more necessary than much of the rubbish which constitutes the present (Ed. State German schools of the time) curriculum during these years (Steiner, 1995, lecture in Stuttgart, 1919).
The Class 12 research project includes a practical component, e.g. building projects (boats, pergolas, furniture construction), performance, display a body of artwork, design of sustainable energy sources.

If teaching is to be effective and meaningful, then teachers have a responsibility to ensure that students not only experience an awakening of their feeling life in presentations, but that they also have a ‘living’ experience of the subject and are able to perceive it’s relevance to ‘real’ life. This can only be fully realized when students are actively involved with their will in the learning process (Fairman, 2006).

Reference: The quotations in this table are drawn from Fairman (2006).

**Sustained imaginative development as support for socio-emotional learning**

The cultivation of imagination ... is ... the bringing of thought to life, permeating concepts and abstractions with life-giving images and energies through which thinking can penetrate and participate in the fullness of reality (Gidley, 2009, p. 192).

Chiltern Pearce’s (2004) research emphasizes that adolescent development offers a second – and last – window of opportunity for ‘imaginative development’ as reflected in the rapid potential growth of the pre-frontal lobes. He places much significance on the embedded moral imperative of imaginative education during adolescence.

**Curriculum perspectives related to socio-emotional learning in High School:**

Arts-based learning modes are connected with cognitive tasks: creative responses elucidate ways in which students have understood and grappled with conceptual content and offer them the chance to extend their thinking and to express original and new ideas.

**An extended concept of schooling**

Educational theory connected to vocational training and to education in the arts and crafts generally focuses on the schooling or training elements of mastery (Schön, 1989). Building on this perspective on schooling and mastery, our research strategy for Waldorf Steiner education extends this concept to focus on interplay between a schooling of thinking, feeling and will. An epistemological basis for such an activity-sensitized ecology of knowing is worked out by Hugo (1995). It builds a bridge between traditional concepts of schooling in education within the sports, arts and crafts and the many exercises directed towards schooling of the soul of the teacher or educational researcher developed by Steiner in connection with the Waldorf school (Hugo, 2010).

Critical and creative thinking abilities are understood to be closely linked; arts-based strategies are interwoven with scientifically oriented styles of teaching and learning; imaginative thinking is seen to support conceptual development.

And any cognitive capacity is primarily a skill of practice, of moving attention, separated from but also embedded in the attentive movements of our emotional and bodily modes of knowing (Hugo, 1995). A cognitive capacity may hence be strengthened by a more explicit focus on complementing and entwining it with the practical, emotional and aesthetic dimensions of learning (Gardner, 1984; cited by Aksel, 2010).

Fewer elective choices and more comprehensive inclusion of different forms of art, music and movement classes.

The general emphasis given to the arts, and especially to music, in Steiner Waldorf schools seems also to enhance the ability to “listen to the world”, rather than impose oneself onto it, which is – as pointed out above – a necessary prerequisite of developing the thinking ability (Dahlin, 2008).
Class guardians maintain continuity of the role of the class teacher in terms of life skills (‘learning from life’), pastoral care, counselling, overview of progress, and reporting and relationship with parents.

In the high school we have a special task with our students. The class teacher has the task of being the gardener of the soul, tilling the soul with rhythm and music ... The elementary school teacher guides the children with loving authority ... High school teachers have a very different task. Adolescents ... are a listening ear to the world. The high school teacher has to have a listening heart so that the adult’s heart touches the student’s heart. Many high school students today are asking the Parzival question, “What ails thee?” of the adults in their lives. We adults need to provide guidance without judgment for our students. Our words develop weight in ways we can scarcely imagine (Staley, 2002).

The other aspect of the social pedagogical question is to prepare people to learn from life. We do not fare well in life if we view it as a rigid and foreign object. We can place ourselves correctly in life only when every moment, every day, every week, every year becomes a source of learning for our future development. Regardless of how far we go in our schooling, we will have accomplished the most if, through this schooling, we have learned how to learn from life (Rudolf Steiner (1977), lecture on the 31st August, 1919).

Evaluation skills are understood to embrace the ‘weighing up of feelings’ which is one of the steps in the phenomenological methodology

The Class 12 research project includes a creative component, e.g. illustration of the thesis, artwork, performance, creative design

As teachers think about the relationship between the aesthetic and the intellectual, they develop pedagogical strategies that encourage engagement ... This involves the recognition of multiple ways of knowing which assists more students to discover that they are imaginative, creative and smart (Rose and Kinchloe, 2003, p.46).

(Rigorous intellectual development: deep knowledge and thinking skills

A research strategy dedicated to develop Waldorf education must focus on the fruitful complementarity between the science and the art of education. The intimate relations between art and science presented in Steiner’s theory of knowledge (Steiner 1886) links up to the general reappraisal of Goethe’s scientific method, which can be found in modern theory of knowledge (Amrine et al. 1996, Barnes 2000; cited by Hugo, 2010).

Curriculum perspectives related to intellectual development in High School:

Phenomenological methodology: astute empirical observation skills and in-depth evaluation is extended to include logical analysis, ‘discovery learning’ and complex conceptual thinking

This consists in starting the teaching of any natural phenomenon with pure observations, e.g. of a plant, or of an experiment, e.g. the refraction of light in passing a prism, consciously holding back any theorizing about it. This is followed by as careful as possible reconstructing or recollecting the observed phenomena without them being physically present, followed by – on the following day – the conceptualization of that which was observed (cf. Steiner, 1986, p. 46-48). Attentive dwelling on the observations of the senses enhances the potential of immediate experience to break through the armour of preformed conceptions, i.e. of ready-made thoughts. The recollection of the observations made earlier stimulates penetration of what was experienced by active thinking (Schieren, 2008). This approach is a very good exercise in the discipline of allowing phenomena to speak for themselves, rather than imposing a network of pre-established concepts on them (cf. Dahlin, 2001). It allows the children’s judgement to mature without “jumping to conclusions”. It teaches open-mindedness, flexibility, truthfulness, and exactitude in dealing with phenomena of nature. It also takes advantage of the
beneficial influence of sleep on the learning process, an influence which was repeatedly stressed by Steiner as early as 1919 (1980, p. 95-152, passim) and which has recently been confirmed by neurobiologists in a number of studies (Hai rston & Knight, 2004; Huber, Ghilardi, Massimini & Tononi, 2004; Yoo, Hu, Gujar, Jolesz, & Walker, 2007). (Dahlin, 2008).

Science and mathematics teaching methods focus on the strong development of thinking skills and include a socio-emotional dimension: content is placed in a social context and includes biographical perspectives;

In his educational ideas he paid much attention to the question of the right development of the thinking powers of children. Steiner's non-materialistic, spiritual framework is of course one of the cornerstones of his pedagogical ideas. Thus in Rudolf Steiner schools pupils are not in their chemistry, physics, and particularly biology lessons exposed to question-begging (because ultimately grounded in metaphysical preconceptions, not scientific facts) claims, images and metaphors, such as that the universe is at bottom composed of atoms (or other “smallest” subatomic particles/elements), and of purely physical forces; or that thoughts and generally all so-called mental phenomena are (nothing but) products of brain activity; that the brain is (nothing but) a complicated computer; that man is (nothing but) a higher animal and a product of blind evolutionary forces, one of the most potent of which is the struggle for survival. As pointed out above, such claims may yet turn out to be not only biased, but even poisons for a growing mind in its struggle to develop deeper thinking powers. It also undermines the development of trust and confidence in one's own thinking power, that it can actually understand the reality of the world (cf. Schieren, 2008). (Dahlin, 2008).

Depth of content and cultural perspectives in the aesthetic main lesson stream encourage deep knowledge processes: themes emphasize ethical concerns and self-discovery in relation to meaning, connection and the development of courage, confidence and optimism;

Comprehensive and broad curriculum: subject expertise in many areas is encouraged to ensure balanced and all round development; specialist expertise is seen to be the domain of tertiary education;

The Year 12 project is an extended unit of independent study and research. Assessment criteria include research skills, analysis, the writing up of the research findings in thesis format, creativity and extended oral presentation (half an hour) to a large public audience. Many students select to focus on themes related to social issues, ethical concerns and sustainable/ecological living.

At the UN World Summit for Sustainable Development held in 2002, it was announced that 2005 – 2014 would be the decade of ‘Education for Sustainable Development’. The UNESCO report (2002) sums up the ideals as follows: “This represents a new vision of education, a vision that helps people of all ages better understand the world in which they live, addressing problems such as poverty, wasteful consumption, environmental degradation, urban decay, (etc). This vision of education emphasizes a holistic, interdisciplinary approach to developing the knowledge and skills needed for a sustainable future, as well as changes in values, behaviour, and lifestyles. This requires us to orientate education systems, policies and practices in order to empower everyone, young or old, to make decisions and act in culturally appropriate and locally relevant ways to redress the problems that threaten our common future. In this way, people of all ages can become empowered to develop and evaluate alternative visions of a sustainable future and to fulfill these visions through working creatively with others.”
Bibliography


Steiner, Rudolf (1986). *Conferences with the Teachers of the Waldorf School in Stuttgart (1919-1920)*. Forest Row: Steiner Schools Fellowship in Great Britain.


Steiner Education Australia

AUSTRALIAN STEINER CURRICULUM FRAMEWORK 2011

Educational Foundations
Attachment 4

STEINER APPROACH TO ICT INTEGRATION
Information and Communications Technology in Steiner Schools

This ICT Supporting Document is based on the indications given by Rudolf Steiner regarding technology and humanity as well as the curriculum resource materials developed by teachers in Steiner Schools both in Australia and internationally. It is being prepared in collaboration with Steiner Schools in Australia through a process of extensive consultation with learning area consultants and the advisory panel as well as opportunities for individual school and teacher response.

1. RATIONALE
This ICT document is designed to be used by both new and experienced teachers to support and supplement their research, planning, teaching and assessment. It is informed by international and Australian Steiner Education Research and Curriculum Publications as well as broader recent science education research. Furthermore, the information presented here is based on current practice, both in Australia and internationally and it is consistent with ICT programs approved and delivered in Steiner Schools in other countries including the USA, New Zealand and the United Kingdom.

2. ICT AND CONTEMPORARY SOCIETY
ICT is an exciting field of human endeavour and it empowers us. Complex technologies also present many new ways of learning and working, often by sidestepping time and space - locating us in an infinite network of here and now. But these amazing extensions to our lives also present challenges to educators as they try to assess which ICT (extensions) are beneficial and in what educational context.

3. ICT IN THE CURRICULUM
It is internationally accepted practice that that Steiner Schools, while preparing a thorough grounding in primary school, delay the formal integration of complex technologies till high school. It is the task of Steiner Primary Schools to lay the foundation for lifelong learning - through a uniquely human and richly choreographed education. As the students’ journeys continues into High School, they quickly learn to apply ICT effectively, creatively and ethically

3.1. Years K to 7 - Preparing the Foundations for Digital Technologies
Steiner Primary Education is a multi-disciplinary, multiple-intelligence engaging and dynamic experience. It provides a natural and human environment where children learn to observe, question and express themselves fully. From a Steiner viewpoint, young children need to communicate and learn deeply without the mediation of complex technology. This ‘unplugged’ experience is seen as crucial for children to develop an uncluttered self-image as well as the most valuable form of self-efficacy – one they completely own. On the basis of their rich communications skills and their ability to produce a wide range of original creative work the students are well placed to master digital technology.

3.2. Year 8 Convergence - Digital Technologies
By the end of year 8 students’ ICT skills and understanding will meet or exceed the ACARA ICT Scope and Sequence requirements

3.3. Years 9 to 12 - Digital Technologies in High School
Steiner high school students have an empathetic and deep interest in the world and its humanity. They enthusiastically embrace a wide range of complex technologies, especially ICT to help them engage this interest through the Steiner High School Curriculum.
4. TECHNOLOGY AS A SUBJECT
ICT is integrated across the High School Curriculum; however, students also experience technology as a subject in its own right. From finger-knitting and other crafts in the early years, through to electronics and computer logic construction in the senior years, students are evolving their technological skills, creatively and in the real world. Knitting is interesting and significant in that it is the earliest form of programmed technology – a knit/pearl sequence is binary code/instruction.

5. ICT INTEGRATION
ICT is integrated into all subjects within the following framework:

5.1 The Ethical, Cultural and Social Context of ICT
Without a firm ethical basis for the full cultural and social context of ICT, technology becomes anathema to education. And while there are obviously ethical issues seemingly unique to ICT; how children and students understand themselves, each other and the world more generally is at issue here. These fundamentally human issues are grist to the Steiner Primary School Curriculum and students, as they grow up through High School, readily accommodate ICT ethics and good social practice into their work through their deep understanding of themselves and the other.

Ethical considerations also include: the OH&S aspects of computer use and overuse, personal and information security, copyright/copyleft, creative commons and open education, the working conditions of hardware and software workers, software ownership and patents, and commercial/political/bureaucratic influences on ICT use in schooling.

5.2 Understanding ICT
This Curriculum aims to enable children and students to be fully engaged in and to take ownership of technology. In order to achieve this, the education seeks to help students understand the technology in its innermost nature and to direct that technology through human agency, this process most observable in the way technologies evolve from simple to complex through the Steiner Curriculum.
Through specific technology units, and more generally within the curriculum, students learn to understand and use computer networks, hardware and software. They learn how to use electrical components to build a binary adder – a fundamental logic unit in computing. They will work with binary and hexadecimal number systems and become familiar with digital colour space notation. Students will also learn to work with different file types including open document formats, and how to manage digital data. They will select appropriate software including from a wide range of Free and Open Source Software (FOSS) operating systems and applications.

5.3 Using ICT

Working ethically, and empowered by an understanding of the technology they are using, students will apply ICT in a variety of ways. And although using ICT is invariably multifaceted, it is helpful to consider the following aspects separately:

5.3.1 Relationships & Communication

Every communication involves a relationship of some kind. Students use various forms of ICT to communicate their ideas and work using social protocols and safety considerations.

5.3.2 Research and Investigation

Research and investigation with ICT can be described using the four element activity cycle. Here students learn to plan an investigation, the research is then carried out, followed by organising what has been found and finally reflecting on the process - which will often lead to planning another investigation cycle.

5.3.3 Creative Application of ICT

Students produce original creative work using ICT. The Steiner Curriculum focus on new work is in contrast to the tendency to rehash and remix the work of others using digital technologies. The production of ICT original creative works by students includes the following areas; audio and video, graphics, word processing, presentations, data processing, publishing, calculations and modelling.
## 6. K - 12 ICT EDUCATIONAL GOALS

### K - 12 Educational Goals for ICT Integration

<table>
<thead>
<tr>
<th>ICT - FULL PARTICIPATION</th>
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<tbody>
<tr>
<td><strong>Years 11 &amp; 12 (High School)</strong></td>
</tr>
</tbody>
</table>
| **The Ethical, Cultural and Social Context of ICT** For students to be ethical and confident users of a wide range of digital technologies. For students to continue to engage with ICT through historical, societal and biographical exploration, for example; The Turing Test, artificial intelligence and the trans-human dilemma. For students to be ethical, independent, creative and active participants in digital technologies. For students to engage with a wide range of digital ICT and, as self-efficacious individuals, and to develop deep knowledge, skills and healthy attitudes about technology.  
**Understanding ICT** For students to explore and value the cutting edge themes in the workings of digital technologies. For students to engage with ICT mathematically by working with processes including bits and qubits, fuzzy logic and chaos theory. For students to engage with ICT scientifically, including by building a binary adding machine from electrical relays.  
**Using ICT** For students to employ ICT creatively and to produce original creative work. For students to reflect on, and modify their use of ICT. For students to plan, conduct and communicate rigorous research tasks using ICT. |

| **Years 9 & 10 (High School)** |
| **The Ethical, Cultural and Social Context of ICT** For students to be ethical and confident users of a wide range of digital technologies. For students to explore and value central themes in the impact of digital technologies. For students to engage with ICT through historical, societal and biographical exploration, for example Alan Turing's life, the invention of the transistor or the impact of social networking. For students to develop a deep knowledge of the whole Human Being as a basis for understanding the evolution of machine “intelligence” and a continual deepening practice of the Arts (in particular the “six Arts”: Architecture, Sculpture, Painting, Music, Creative Speech and Eurythmy) as a balance to the “machine” life of students.  
**Understanding ICT** For Students to explore and value the central themes in the workings of digital technologies. For students to engage with ICT mathematically by working with processes including Boolean logic and binary/hexadecimal number systems. For students to engage with ICT scientifically through studies in electromagnetism and materials science. For students to develop a deep knowledge and practice in ICT OH&S, ICT identity and anonymity, ICT privacy and exposure, ICT freedom and manipulation, original creative work and the copy/paste paradigm.  
**Using ICT** For students to apply ICT in a fully integrated way. For students to engage creatively and ethically with ICT including; computer networks and operations, word-processing, spreadsheets and databases, multimedia and graphics and with the Internet and email. |
### 6. K - 12 ICT EDUCATIONAL GOALS

<table>
<thead>
<tr>
<th>ICT - FOUNDATION YEARS</th>
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<tbody>
<tr>
<td><strong>Years K to 6 (Primary School)</strong></td>
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<tr>
<td><strong>Years 7 &amp; 8 (Middle School)</strong></td>
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<tr>
<td><strong>The Ethical, Cultural and Social Context of Technology.</strong> For students to be ethical and confident users of a range of technologies. For students to engage with ICT through historical, societal and biographical exploration, for example mechanical programming of weaving etc during the Industrial revolution. <strong>Understanding Technology.</strong> For students to explore and value the central themes in the workings of digital technologies. For students to engage with ICT mathematically by working with processes including solid geometry, nets, scale and algebra. For students to engage with ICT scientifically through studies in electricity and switching (including “hallway” switching). <strong>Using Technology.</strong> For students to be independent, engaged, imaginative and skilled interpreters of the world by using appropriate technologies, leading to an extensive range of ICT competencies in High School. <strong>Year 8 Convergence</strong> Year 8 students' skills and knowledge converge with ACARA ICT Scope and Sequence requirements.</td>
</tr>
<tr>
<td><strong>The Ethical, Cultural and Social Context of Learning.</strong> For children to develop towards a healthy self image through real relationships. For children to engage in a rich story life through imaginative lessons and whole-body learning. For children to develop emotional well being and resilience as a foil to contemporary life. For children to explore and value, through story and play, their relationship to time and place. For children to think and act cooperatively, empathetically and sustainably. <strong>Understanding Technology.</strong> For children to explore how technology extends their ability to do things. For children to choose an appropriate technology for a task. For children to make tools to achieve a task. For children to reflect on how well a technology they had selected and used achieved its purpose. <strong>Using Technology.</strong> For children to be independent, engaged, imaginative and skilled interpreters of the world by using appropriate technologies.</td>
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## 7. ICT SCOPE AND SEQUENCE

<table>
<thead>
<tr>
<th>Year K to 7</th>
<th>The Ethical, Cultural and Social Context of Learning</th>
<th>Understanding Technology</th>
<th>Relationship and Communications</th>
<th>Using Technology</th>
<th>Creative Application of Technology</th>
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<tbody>
<tr>
<td></td>
<td>Children:</td>
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<td></td>
<td>Develop a strong sense of self through the rich story life they experience through the Curriculum and by working creatively with each other in both formal settings and in unstructured free play.</td>
<td>Explore how technology extends their ability to do things, for example dig a small hole in the garden using a trowel.</td>
<td>Explore a wide range of communications both with themselves and each other.</td>
<td>Observe the natural world and built environment, and value the questions and responses they find arising from their observations.</td>
<td>Initiate ideas, plans and activities, often requiring many-step processes.</td>
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<td>Explore time, place and space through stories and activities – an important aspect of identity building and an important basis for future exploration of the timeless, placeless ICT environment.</td>
<td>Choose an appropriate technology for a task such as the selection of appropriate craft materials.</td>
<td>Learn to communicate creatively and effectively; orally, with imagery and gesture, and with written texts.</td>
<td>Use a wide range of resources to help them find answers to questions, for example; oral tradition, books, magazines, drawings, people with various backgrounds etc.</td>
<td>Select the appropriate technology to facilitate the following works:</td>
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<td>Work with each other cooperatively and empathetically through mediated and unmediated activities.</td>
<td>Make tools to achieve a task for example make their own knitting needles from wooden dowel.</td>
<td>Choose friends but do not exclude others – the value of real friendship is especially important in the often superficial friendship world of social networking.</td>
<td>Record investigations and research using appropriate media including; tables or graphs, images, written or spoken text or a combination of the above.</td>
<td>Presentations Supported by posters or other augmentation.</td>
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<td>Respect the personal space of others and understand that the space of others includes their creative work.</td>
<td>Reflect on how well a technology they had selected and used achieved its purpose, for example was the thickness of a particular paintbrush appropriate.</td>
<td>Communicate to a group taking into account the nature of that particular audience.</td>
<td>Reflect on investigations - did I find out what I wanted to know.</td>
<td>Written Text Including elegant handwriting in form and content.</td>
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<td>Conduct a wide range of oral communications including; soliloquy, one-on-one conversation, group discussion, oration and various forms of dramatic performance.</td>
<td>Discuss reflections</td>
<td>Two and Three dimensional Artistic Works A wide variety of creative works including painting, drawing, weaving, sculpture and architecture.</td>
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<td>Dramatic Performance A range of performance including music (instrumental), music (singing), poetry recitation, drama and Eurythmy (Life Movement).</td>
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<td>Exposition of Scientific or Mathematical Data Creative representation of scientific and mathematical data through tables, graphs and texts.</td>
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<tr>
<td>Year 8 (Middle School)</td>
<td>The Ethical, Cultural and Social Context of Technology</td>
<td>Understanding Technology</td>
<td>Using Technology</td>
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<tr>
<td>8 (Middle School)</td>
<td>Students: Maintain a strong sense of self by working creatively with each other in both formal and informal settings. Respect the personal space of others and understand that the space of others includes their creative work. Intellectual Property: Recognise ethical dilemmas that arise within legal boundaries and explain the purpose and application of laws in protecting intellectual property. e.g. pirating denies musicians payment for their work; secondary and tertiary use of data (ACARA).</td>
<td>Students: Explore how technology extends their ability to do things, for example using a slide rule to multiply and approximate solutions. Develop an understanding to ICT through activities and discussion including: How have computing machines and their relationship with people evolved? • Finger math. • Counting with stones. • Implement an abacus. Mechanical adder: Story of Blaise Pascal and his calculator of 1642. Implement the essential mechanism. How many cog wheels can you follow imaginatively until the mechanism becomes too complex? Multiplication machines • Story of John Napier. • Implement Napier’s rods.</td>
<td>Students: Explore a wide range of communications both with themselves and each other. Learn to communicate creatively and effectively; orally, with imagery and gesture, and with written texts. Choose friends but do not exclude others – the value of real friendship is especially important in the often superficial friendship world of social networking. Communicate to a group taking into account the nature of that particular audience. Conduct a wide range of oral communications including; soliloquy, one-on-one conversation, group discussion, oration and various forms of dramatic performance. DIGITAL TECHNOLOGY Accessing and producing a wide range of text including visual texts.</td>
<td>Students: Observe the natural world and built environment, and value the questions and responses they find arising from their observations. Use a wide range of resources to help them find answers to questions, for example; oral tradition, books, magazines, drawings, people with various backgrounds etc. Record investigations and research using appropriate media including; tables or graphs, images, written or spoken text or a combination of the above. Reflect on investigations - did I find out what I wanted to know. Discuss reflections.</td>
<td>Students: Initiate ideas, plans and activities, often requiring many-step processes. Select the appropriate technology to facilitate the following works: Presentations: Supported by posters or other augmentation. Written Text: Including elegant handwriting in form and content. Two and Three dimensional Artistic Works: A wide variety of creative works including painting, drawing, weaving, sculpture and architecture. Dramatic Performance: A range of performance including music (instrumental), music (singing).</td>
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### Understanding Technology

#### Computers in our lives - ICT Survey.
- Example: Observe and describe how computers are used in the school, e.g., school office, library.
- Observe and describe how computers are used on the road, e.g., traffic counters, toll debit machines, car engine control.
- Observe and describe how computers are used in the home, e.g., compact disk player, personal computer, washing machine, telephone/answering machine, robot toy.
- Observe and describe how computers are used in the neighbourhood, e.g., price from bar code on goods, Inventory-control in stores, health monitoring in hospitals, Internet Service Providers.

#### Human computing teams
- Story of Baron Prony and division of computing labour, inspired by Adam Smith’s Wealth of Nations.
- Implement a computing team.

#### Difference engine
- Story of Charles Babbage and Ada Lovelace.

#### Mechanization of instructions: towards the stored program control machine.
- Theory of Babbage’s analytical Engine designed to enable a choice of programmed numerical calculations, 1832.
- Story of Jacquard mechanizing the loom weave pattern, 1862.
- Story of Herman Hollerith’s Census Coding Machine mechanizing.

### Relationship and Communications

- **ACARA General ICT**
  - Experiencing, listening, reading, writing digital (including multimodal) texts.

### Research and Investigation

- **ACARA Maths ICT**
  - Plot and compare linear equations using ICT.
  - Spreadsheets to record scientific data and create simple graphs.

### Creative Application of Technology

- **DIGITAL TECHNOLOGY**
  - Poetry recitation, drama and Eurythmy (Life Movement).
  - Exposition of Scientific or Mathematical Data.
  - Working with spreadsheets (recording data, analyzing and graphing).

- **ACARA General ICT**
  - On-line collaboration such as conferencing.
  - Making presentations.

- **ACARA Science ICT**
  - Working with digital images.
<table>
<thead>
<tr>
<th>Year 8 (Middle School)</th>
<th>The Ethical, Cultural and Social Context of Technology</th>
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<tbody>
<tr>
<td></td>
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<td>manipulation of non-numerical census data, 1890.</td>
<td>Relationship and Communications</td>
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<tr>
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<td></td>
<td>• Story of John von Neumann and the von Neumann architecture, 1940s.</td>
<td>Research and Investigation</td>
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<td>• Human emulation of a von Neumann machine.</td>
<td>Creative Application of Technology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Disassemble and assemble a PC again and identify the subsystems corresponding to the von Neumann architecture.</td>
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</table>

**Electronic calculator**
- Limitations of capacity leading to overflow and underflow.
- Limitations of accuracy due to limitations of precision due to limited capacity of number representation.

**Comparison of the above computing machines**
- Can the user understand how the computing machine works?
- What is the relative power, in terms of
<table>
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<tr>
<th>Year 8 (Middle School)</th>
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<tr>
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<td>speed and scope of operation, of each machine?</td>
<td>Relationship and Communications</td>
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<td>• What is the functionality of each machine in terms of the components of the von Neumann architecture?</td>
<td>Research and Investigation</td>
</tr>
<tr>
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<td>• What are the limitations of each machine?</td>
<td>Creative Application of Technology</td>
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<td>• How much judgment does the user delegate to each machine?</td>
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</table>
### Year 9 & 10 (High School)

#### The Ethical, Cultural and Social Context of ICT

- Students:
  - Maintain a strong sense of self by working creatively with each other in both formal and informal settings.
  - Respect the personal space of others and understand that the space of others includes their creative work.
- **Intellectual Property.** Recognise ethical dilemmas that arise within legal boundaries and explain the purpose and application of laws in protecting intellectual property. e.g. pirating denies musicians payment for their work; secondary and tertiary use of data (ACARA)
- **Information Security.** develop and maintain strategies for securing and

#### Understanding ICT

- **ICT Systems.** Effectively, efficiently and ergonomically use typical networked systems and peripherals, and independently configure some settings (e.g. duplex print, set proxies) to optimise for a particular task. Independently select and efficiently use software functions for navigation, formatting, setting parameters, and transferring data. e.g. altering toolbars, sorting and layout functions. Solve routine hardware, software, and network problems; protect computers, networks, and information; and access online help and user documentation to solve common problems. e.g. update virus checkers, backup strategies – USB/external hard drive (ACARA)
- **Selecting ICT.** Explain the value of the hardware and software they are required to use. e.g. page layout software good for posters (ACARA)

#### Using ICT

- **Collaboration.** Select and use a range of appropriate ICT tools to share and exchange information and to support group collaboration. e.g. online documents and management tools for collaborative projects; exchange data, joining virtual communities (access, protection etc) (ACARA)
- **Social Protocols.** Discriminate between protocols suitable for different communication tools when collaborating in virtual communities. e.g. appropriate use of salutation; adjusting length and formality of message to suit form of communication; appropriate identification of contributor (ACARA)
- **Security.** propose and apply a range of techniques and strategies appropriate to participation in virtual communities, while assessing the risk. e.g. modify default parameters at social networking site (ACARA)
- **Planning Research.** Select and use appropriate ICT to analyse information in order to frame questions and plan research strategies. e.g. create wikis; concept maps with hyperlinks; create relational databases of information (ACARA)
- **Research Tasks.** Use specific digital tools including search engines, advanced search functions or peripheral devices to locate, retrieve and record precise data and information in a variety of file formats. e.g. using Boolean logic; search within fields or for data type; open, select or save in different formats; access an academic logger to capture soil temperatures (ACARA)
- **Ideas and Plans.** Select and use appropriate ICT to develop effective designs and efficient plans for the creation of solutions or answers to questions, e.g. use features of software such as links, tables and tracking to: propose multiple plans; show selections; modify plans; show reviewing and consultation. ACARA

#### Creative Application of Technology

- **Students Select and Use:**
  - a range of appropriate ICT tools and techniques to create multi-dimensional solutions that consider the purpose, the characteristics of users and the results of testing. e.g. movies; music; formulas and chart parameters in spreadsheets; developing models; animations; websites; programming (gaming) tools; databases (ACARA)
- **Publishing & Presentation**
  - Create effective digital media layouts of various types. e.g. multi-component online or handheld layouts
<table>
<thead>
<tr>
<th>Year 9 &amp; 10 (High School)</th>
<th>The Ethical, Cultural and Social Context of ICT</th>
<th>Understanding ICT</th>
<th>Relationship and Communications</th>
<th>Using ICT</th>
<th>Research and Investigation</th>
<th>Creative Application of Technology</th>
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<td>Creative Application of Technology</td>
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<tr>
<td></td>
<td>protecting information. e.g. use filters to divert junk mail (ACARA)</td>
<td>Understanding Systems. Identify visible components of ICT system, their fundamental functions, and describe them using basic ICT terminology, e.g. hardware/software; input/output/storage; network; data; recognise basic conventions such as the ‘shut-down’ command; recognise the function of simple peripherals such as USB drives; recognise commonly used types software such as web-browsers; connections between mouse and actions on the screen (ACARA)</td>
<td>Managing Data. With guidance, use basic software commands to manage and maintain digital files on common types of storage medium e.g. “run” programs; save and retrieve files from directories; provide unique names for files; apply basic functions such as opening and dragging-and dropping files on the desktop; use ‘save as’ (ACARA)</td>
<td>Research Evaluation. Develop and use guidelines and appropriate criteria for evaluating the quality of located information (accuracy, bias and comprehensiveness) and establishing the credibility of the source. e.g. establish protocols, for the inclusion or omission of potential resources and apply them to select a set of ‘best’ resources from a larger set; compare objective data from multiple sources to evaluate the likely credibility of the information provided (ACARA)</td>
<td>Word Processing Create effective text layouts of various types and sources e.g. for online or handheld viewing, speech recognition, language translation</td>
<td>Graphics &amp; Animation Create effective graphic and photographic images and animations. e.g. for online or handheld viewing</td>
</tr>
<tr>
<td></td>
<td>Personal Security. Understand the need for codes of conduct and procedures for ICT use in different contexts. e.g. identify possible consequences of posting revealing personal information on social networking sites; recognise the range of ways of using ICT that can result in cyber bullying; take responsibility for the effect of communications on other people (ACARA)</td>
<td>ICT and Society. Reflect on the use of ICT to assess its impact and future needs in the workplace and society and consider their role in influencing ways in which ICT is used. e.g. enhanced Understanding what is going on with and within modern computers?</td>
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<tr>
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<td>Graphics &amp; Animation Create effective graphic and photographic images and animations. e.g. for online or handheld viewing</td>
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</tbody>
</table>
### Understanding ICT

- Reassembly and configuration of the PC.
- Loading, installing, and configuring a commercial application.

#### Understanding the Lifecycle care of a modern computer

- How applications drive requirements for upgraded capabilities.
- How required capabilities plus von Neumann architecture drive component design.
- Upgrade the PC due to a new requirement.
- Tasks for routine maintenance.
- Troubleshooting and repair using a systems approach.
- Recycling obsolete components - where do all the old computers go?

### Using ICT

#### Relationship and Communications

- Control/ Programming
  - Use ICT to measure, record, respond to and control events by planning, testing and modifying sequences, repetitions and branching of instructions.
  - e.g. using automatic weather stations, data logging in fieldwork and experiments, using feedback to control devices, automating frequently used processes.

#### Research and Investigation

- Computation and modelling
  - Use ICT to test predictions and discover patterns and relationships, by exploring, evaluating and developing models and changing their rules and values.
  - e.g. formulae, graphs and calculations in spreadsheets, graphic calculators and other applications (ACARA).
<table>
<thead>
<tr>
<th>Year 11 &amp; 12 (High School)</th>
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</thead>
<tbody>
<tr>
<td>Students:</td>
<td>As role models, take on mentoring tasks within the school student body.</td>
<td><strong>Where does the power of a modern digital computer come from?</strong></td>
<td><strong>Collaboration.</strong> Select and use a range of appropriate ICT tools to share and exchange information and to support group collaboration. e.g. online documents and management tools for collaborative projects; exchange data, joining virtual communities (access, protection etc) (ACARA)</td>
<td><strong>Planning Research.</strong> Select and use appropriate ICT to develop effective designs and efficient plans for the creation of solutions or answers to questions, e.g. use features of software such as links, tables and tracking to: propose multiple plans; show selections; modify plans; show reviewing and consultation. (ACARA)</td>
</tr>
<tr>
<td>Students:</td>
<td>Respect the personal space of others and understand that the space of others includes their creative work</td>
<td><strong>Algorithms</strong> Method of differences algorithm via the human computing team. Everyday procedures contrasted with algorithms Review algorithms the students already know, e.g., decimal vertical addition History of algorithms from Ancient Egypt through Knuth. Relative efficiency of alternative sorting algorithms; practical limitation of machine processing capacity due to an intractable amount of computation.</td>
<td><strong>Social Protocols.</strong> Discriminate between protocols suitable for different communication tools when collaborating in virtual communities. e.g. appropriate use of salutation; adjusting length and formality of message to suit form of communication; appropriate identification of contributor (ACARA)</td>
<td><strong>Ideas and Plans.</strong> Select and use appropriate ICT to develop effective designs and efficient plans for the creation of solutions or answers to questions, e.g. use features of software such as links, tables and tracking to: propose multiple plans; show selections; modify plans; show reviewing and consultation. (ACARA)</td>
</tr>
<tr>
<td>Students:</td>
<td>Research and discuss how computing relate to human intelligence? Computing and human intelligence: Examples of computing &quot;intelligence&quot;. Limitations of computing. ○ Algorithms ○ Limitations of abstraction. ○ Electronic calculator - review of limitations of capacity, precision, and accuracy ○ Relationship between accuracy and precision</td>
<td><strong>Stored program control</strong> The fetch-decode-execute cycle. Instruction set. Machine language.</td>
<td><strong>Research Tasks.</strong> Use specific digital tools including search engines, advanced search functions or peripheral devices to locate, retrieve and record precise data and information in a variety of file formats. e.g. using Boolean logic; search within fields or for data type; open, select or save in different formats; access an academic directory; access a register-only website; site maps; bread crumbs, recognise icons; use data logger to capture soil temperatures (ACARA)</td>
<td><strong>Students Select and Use:</strong> a range of appropriate ICT tools and techniques to create multi-dimensional solutions that consider the purpose, the characteristics of users and the results of testing. e.g. movies; music; formulas and chart parameters in spreadsheets; developing models; animations; websites; programming (gaming) tools; databases (ACARA)</td>
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<td></td>
<td><strong>Research and Investigation</strong></td>
<td><strong>Creative Application of Technology</strong></td>
<td></td>
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<tr>
<td>Students:</td>
<td></td>
<td><strong>Creative Application</strong> of Technology</td>
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www.steinereducation.edu.au

EDUCATIONAL FOUNDATIONS: att. 4: ICT Integration
Version: October 2011
<table>
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<td></td>
<td>Relationship and Communications</td>
<td>Research and Investigation</td>
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<td></td>
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<td>at social networking site (ACARA)</td>
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<td></td>
<td>Bit level logic “below” the instruction set level.</td>
<td>Managing Data. with guidance, use basic software commands to manage and maintain digital files on common types of storage medium e.g. “run” programs; save and retrieve files from directories; provide unique names for files; apply basic functions such as opening and dragging-and-dropping files on the desktop; use ‘save as’ (ACARA)</td>
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<tr>
<td></td>
<td>Binary digits</td>
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<tr>
<td></td>
<td>Henry Morse and the first telegraph system, to introduce a binary system.</td>
<td>Review of Jacquard’s loom and Hollerith’s census counter use of bits, Implementing logic gates.</td>
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</tr>
<tr>
<td></td>
<td>Review of Jacquard's loom and Hollerith's census counter use of bits, Implementing logic gates.</td>
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<tr>
<td></td>
<td>George Boole.</td>
<td>Human analogue -&gt; mechanical analogue -&gt; DC electric circuits using batteries, resistors, manual switches, and relays -&gt; transistor circuits.</td>
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</tr>
<tr>
<td></td>
<td>Applications, e.g., binary adder, tic-tac-toe machine, traffic light controller.</td>
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<td></td>
<td>Implementing “memory”. Flip-flop. Shift register. Microprocessor</td>
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<tr>
<td></td>
<td>Application level logic “above” the instruction set level</td>
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</tr>
</tbody>
</table>

**The Ethical, Cultural and Social Context of ICT**

- Turing test for "intelligence".
  - Definition of the test, the Loebner Prize.
  - Eliza program, Eliza’s successors, e.g., ALICE, Ella.
  - Anonymity on the Internet – machine or person on the other end?

- Searle’s Chinese Room Experiment.

**Good use of computers**

For what tasks are electronic computers a match? - an approach to using computer products with judgment.

Moral action with computers – discussion topics.

Postulate guidelines for the operator concerning when to

**Using ICT**

- Managing Data. with guidance, use basic software commands to manage and maintain digital files on common types of storage medium e.g. “run” programs; save and retrieve files from directories; provide unique names for files; apply basic functions such as opening and dragging-and-dropping files on the desktop; use ‘save as’ (ACARA).

**Research Evaluation.**

Develop and use guidelines and appropriate criteria for evaluating the quality of located information (accuracy, bias and comprehensiveness) and establishing the credibility of the source. e.g. establish protocols, for the inclusion or omission of potential resources and apply them to select a set of ‘best’ resources from a larger set; compare objective data from multiple sources to evaluate the likely credibility of the information provided (ACARA).

**Creative Application of Technology**

- Create effective digital media layouts of various types.
  - e.g. multi-component online or handheld layouts

**Word Processing**

- Create effective text layouts of various types and sources.
  - e.g. for online or handheld viewing, speech recognition, language translation

**Graphics & Animation**

- Create effective graphic and photographic images and animations.
  - e.g. for online or handheld viewing

**Audio/Music**

- Combine sounds, incorporate effects and original music

**Video**

- Edit and combine original video with complex effects for a variety of platforms.
  - e.g. handheld and mobile viewing

**Data Processing**

- Create digital repositories for a range of different data types and delivery mechanisms.
  - e.g. simple relational databases, online data
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<tr>
<td></td>
<td>use a computer.</td>
<td>Programming.</td>
<td>Relationship and Communications</td>
<td>entry</td>
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<tr>
<td></td>
<td><strong>Future potentialities of computers.</strong></td>
<td>A procedural programming language.</td>
<td>Research and Investigation</td>
<td>Control/ Programming</td>
</tr>
<tr>
<td></td>
<td>Types of distributed computing, e.g., human computing team, SETI project, peer to peer computing, cluster computing.</td>
<td>Contrasts of an object-oriented language.</td>
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<tr>
<td></td>
<td>Nano-computers, including an imagination of pervasive nano-computing.</td>
<td>Components of a development environment.</td>
<td></td>
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<tr>
<td></td>
<td>Beyond silicon, e.g., quantum computers, DNA computers. Evolutionary algorithms.</td>
<td>How a specific application program works, e.g., text editing. HTML or XML.</td>
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<td></td>
<td>Fuzzy logic.</td>
<td>User-centred design.</td>
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<tr>
<td></td>
<td><strong>Computer networking</strong></td>
<td>Operating system, including kernel distinction from bundled applications.</td>
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<td>Set up a computer network with PCs, a printer, and Internet access.</td>
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<tr>
<td></td>
<td>IP networking and how the Internet works.</td>
<td>The Internet as intersecting international communities.</td>
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<td><strong>Future potentialities of computers.</strong></td>
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### NSW School Certificate (Year 10) Computing Skills Results 2006 - 2010 (with permission)

**Lorien Novalis School for Rudolf Steiner Education, Sydney**

<table>
<thead>
<tr>
<th>Year</th>
<th>Formal ICT Started</th>
<th>Exam Online? Pen/Paper?</th>
<th>Absentees</th>
<th>How Many Sat</th>
<th>Result spread</th>
<th>Board of Studies Statistics</th>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CND, C, HC</td>
<td>School EM Mean, School EM SD, State EM Mean, State EM SD, z-score</td>
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<tr>
<td>2006</td>
<td>Yr 8</td>
<td>Pen/Paper</td>
<td>3</td>
<td>21</td>
<td>0, 5, 16</td>
<td>84.32, 5.7, 80.55, 10.46, 0.36</td>
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<tr>
<td>2007</td>
<td>Yr 8</td>
<td>Pen/Paper</td>
<td>7</td>
<td>22</td>
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<tr>
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<td>Yr 8</td>
<td>Pen/Paper</td>
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<td>0, 9, 11</td>
<td>82.8, 7.96, 80.71, 10.7, 0.2</td>
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<tr>
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<td>Pen/Paper</td>
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<td>2011</td>
<td>Yr 8</td>
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### Glenaeon Rudolf Steiner School, Sydney

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<td></td>
<td></td>
<td>CND, C, HC</td>
<td>School EM Mean, School EM SD, State EM Mean, State EM SD, z-score</td>
</tr>
<tr>
<td>2006</td>
<td>Yr 7</td>
<td>Pen/Paper</td>
<td>5</td>
<td>49</td>
<td>0, 12, 37</td>
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<tr>
<td>2007</td>
<td>Yr 7</td>
<td>Pen/Paper</td>
<td>0</td>
<td>49</td>
<td>0, 10, 39</td>
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<tr>
<td>2008</td>
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<td>16</td>
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<td>77.06, 11.96, 79.44, 10.84, 2.38</td>
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<tr>
<td>2011</td>
<td>Yr 5</td>
<td>Online</td>
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**Competency Levels**

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
<th>Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>CND</td>
<td>Competency Not Yet demonstrated</td>
<td>0 &lt;= 50</td>
</tr>
<tr>
<td>C</td>
<td>Competent</td>
<td>51 &lt;= 79</td>
</tr>
<tr>
<td>HC</td>
<td>Highly Competent</td>
<td>80 &lt;= 100</td>
</tr>
</tbody>
</table>
AUSTRALIAN STEINER CURRICULUM FRAMEWORK 2011

PART B

COMPARISON

Between the

AUSTRALIAN CURRICULUM FRAMEWORK

and the

THE AUSTRALIAN STEINER CURRICULUM FRAMEWORK

at the end of each Stage
Comparison of the National Curriculum and the Steiner Curriculum at the end of Each Stage

Comparison at the end of Stage 1- Classes K to 3

**English Stage 1**

In English there is a high degree of equivalence in end of stage Content Organisers in the area of skills in listening, viewing, writing, reading, spelling, grammar, oral language and the creation of recalled narrative texts and factual texts. The focus and approach of the final year of the ASCF in Stage 1 English is comparable with the National Curriculum Year 3 introduction but centres more particularly around:

- immersion in high quality literature from traditional sources: folk tales, legends and mythologies from different times and cultures as well as poetry and drama
- daily oral language work of verse speaking, singing, poetry and drama
- daily practice of listening to told stories, recall of previous narratives and pictorial, dramatic and written representation of recalled stories in all learning areas eg not only English or literary studies but also science and history, maths and geography of the local area
- study of a foreign language and a different cultural context for language

Assessment would therefore focus primarily on observation of:

- basic skills in listening, viewing, writing, reading, recall of texts, spelling, grammar, written expression, vocabulary and oral language skills
- levels of enjoyment and engagement in literature, artistic representation of narratives
- skills in dramatic presentation, recitation.

What would not be a focus until the following stage would be:

- Conceptual analysis of evaluative language, identification of effect on audiences of techniques, discussion of effect of language devices and comparison of different ways meaning is created in alternate texts of a similar topic, persuasive language.
- Digital technologies

**Maths Stage 1**

There is a high degree of equivalence in the Content Organisers by the end of this stage. The interpretation of these through elaborations is often aligned however this is with the distinction that much additional work is done in the following areas:

- concrete exploration of mathematics through cooking, handcrafts, creating a real shop with garden produce etc
- rhythmic work eg clapping and walking number sequences, patterns and multiplication tables on a daily basis
- moving numeral and geometrical forms on the floor, in sand on a daily basis in early Stage 1
- daily narrative pictures of number quantities, processes and written conventions or representations of algorithms

A general difference in assessment might be the use of informal and observational assessment of mental arithmetic, concrete and pictorial work as well as strategies and algorithms rather than heavy reliance on formal testing at this stage.

What would not be a focus until the following stage would be:

- theoretical representation of unit fractions (though practical experiences, activities and verbal identification are covered)
- conducting of chance experiments to identify variations in results
- use of digital technologies eg calculator
Science  Stage 1

The approach to Science in Stage 1 is experiential through authentic life tasks and narrative based knowledge and wisdom. Equivalent Content Organisers can usually be found in this stage yet the elaborations are sometimes quite different. The knowledge is practical, embodied and in living pictures of nature and people's lives and activities eg

- Creating a farm and/or garden with vegetables, fruits and grains
- Building an individual scale house of their own design and real practical structure such as a cubbyhouse, pizza oven, wall or gazebo with their class.
- Stories of eg the farmer, the bricklayer, the miller, the carpenter and builder
- Stories of the animals and plants of the environment of their school grounds, home garden and local landscape.

A main difference therefore would be in assessment since teachers would look for

- practical contribution to eg gardening, building, cooking and handcraft activities
- recall of storylines with practical knowledge of care of farm animals, sowing and harvesting, house design and building, time measurement and home crafts
- a sense of trust and gratitude for their home on the earth
- a sense of confidence in being able to build a home, create a kitchen garden, cook and make handcrafts with different materials
- a spirit of exploration of different ways of completing the above tasks and practical adjustment to create more useful approaches
- an ability to follow spoken, drawn or written directions for tasks
- a sense of cooperation as well as independence in tasks
- informal sharing and communication of discoveries

What would not be a focus until the a following stage would be

- the abstract conceptualisation of information e.g. Concepts about Earth’s rotation (Stage 2)
- science experiments not related to authentic home and school activities (Stage 2)
- use of digital technologies (Skills scaffolded in Stage 2 met in Stage 3)

History  Stage 1

Foundation to Year 3 History in the National Curriculum moves from the child to the family, to local community and then more diverse communities. This movement is followed in the Steiner curriculum in the broad topic of Local Surroundings which encompasses Science and Geography also. The Steiner curriculum begins formal History in Year 5. Prior to this it is

- Experienced in family, school and community celebrations
- Relived in handcrafts and woodwork from times when communities made their own life needs within the family or locally
- Met in the rich literary sources told to the children and dramatically enacted eg Aboriginal and Torres Strait Islander sources, Asian sources, world folk tales and legends, Russian, Celtic or Hebrew sources.
- Recalled in the stories of the different society structures, traditional trades and lifestyles of these stories.
- Experienced in the study of the local area and the development of farming, tools, practices and communities in relation to the geography of the landscape
- Studied with regard to different types of homes developed throughout time and across diverse community.

There is convergence at the end of Stage 1 with ACARA content descriptors although the learning experiences are different.
Comparison at the end of Stage 2 - Classes 4 to 6

**English Stage 2**
Immersion in quality oral and written literature of the full history of mythologies (including Asian and Aboriginal and Torres Strait Islander), Australian literature, historical and contemporary biographies, verse from Nordic to the Vedas and Greek Hexameter and full dramatic productions each year continue to be a focus. Daily writing of narrative recall in diverse forms eg diary, speech, excerpt or summary builds strength in listening, organisation of material and written expression. Daily oral work in the morning circle continues. Grammar explores both inner experience and outer expression and extends eg to the full range of the tenses, use of active/passive voice and the conditional/concessional tense. Experience of meaning, quality of style and structure of a wide range of excellence in the literature of the world is seen to precede and lay the best groundwork for the students own reflective thought, written expression as well as recognition of bias, persuasive texts and appropriateness of different language styles. Thus while the analysis of language and literature occurs it is subsequent to the experience of the literature and is artistically and authentically integrated.

Assessment is based on both formative and summative assessment, with the focus on the formative. Examples are: the Main Lesson Book record of learning, observation of story recall and oral work, work completed in practice lessons, informal tests and project work and research. Annotated work samples form the basis for standards assessment.

What would not be a focus until Stage 3 would be
- creation of digital texts

**Maths Stage 2**
By the beginning of Stage 2 the curriculum, based on fluency with the four operations with whole numbers, can move toward fractions then decimals and lastly percentages, bringing equivalence in these areas. Mathematical reasoning is investigated more consciously and formulae are understood and chosen for problem based scenarios in line with the National Curriculum. Accurate geometrical constructions with instruments develop out of the earlier freehand forms well beyond the scope and complexity of geometry for Stage 2 of the National Curriculum. Understanding of Business Mathematics also integrates ethics and good practice eg loans on purchase of assets but not for recurrent expenditure.

Assessment is both formative and summative, with a focus on formative. In class assessments / tests occur, including:
- daily mental arithmetic of all processes including fractions, decimals and percentages
- continued oral fluency of times tables, moved number sequences and rhythmic number games
- written application of the four processes and known strategies to fractions, decimals and percentages
- use of simple formula for area and perimeter
- understanding of principles of business mathematics including interest, discount, profit, loss, and taxation.
- observation of accuracy, beauty and colour harmony of circle divisions and stellar polygons

Annotated work samples also form the a basis for teacher judgements on standards of work achieved.

What would not be a focus until the following Stage would be
- describing probabilities of chance events and conducting chance experiments and comparing observed frequencies.
- Use of digital technologies of the computer eg to generate translations and reflections or rotations
- Use of the Cartesian plane to express relationships.
Science Stage 2
Science in Stage 2 moves from learning about the natural world (natural science) in an imaginative way to a more objective use of sense perception in its relationship to nature. For example, the knowledge of the animal world and its early categorisation happens not by simply cataloguing characteristics but rather by the imaginative, description of animal characteristics in relation to the human physical organism (Science 4). The evolution of the plant kingdom – from the fungi, algae, mosses, ferns, cone plants to flowering plants is studied also in relation to the stages of infancy to childhood to adolescence to adulthood, (Science 5). This way of working builds a deeper engagement of the senses with the world via the imagination. The next step is taken with the study of the mineral world and stars (Science 6). The progression from human/animal to plant to mineral/stars is also a journey of emotional connection to the outside world. The first physics lessons are also introduced in year 6 which particularly exercise the early formal stages of intellectual discernment as an ability to make objective meaningful connections of one perception to another.

Assessment would be developed within the following parameters
- Ability to make objective representations of sense perceptions and to make meaningful connections between different experiences.
- Ability to describe experiences objectively and to separate experience from explanation.
- Ability to graphically represent experiences and connections to other experiences.
- Ability to learn age appropriate specialist language for new areas of scientific experience.
- Assessment of what has been learned in new areas of experience e.g. rock types and identification methods for a range of minerals; ability to be able to represent graphically star movements above the horizon from different places on the Earth, such as the equator, the poles and from their own location.
- Ability to put together a book, recording a series of experiments around a theme and the subsequent recording and discussion that takes place.

Annotated work samples also form the a basis for teacher judgements on standards of work achieved.

What would not be a focus until the following stage would be
- Making intellectual judgements to explain phenomena based on abstract models.
- Digital technology would not be a focus other than in the sense that the laying out and reporting of experiments are scaffolding its later use.

History Stage 2
The ASCF focuses on Australian History from the life Aboriginal and Torres Strait Islander people to the journeys of exploration and European settlement and up to the time of Federation. In world History a significant review of the earliest times up to the Roman Empire occurs.

Within this stage the focus includes
- shifts from mythological histories to narrative and biographical accounts of life in earlier times
- moves from narrative recall to increasing investigation of sources eg diaries and maps/charts
- beginning to develop different perspectives of events eg as Captain Cook or a convict boy on the First Fleet
- developing from descriptions of daily life and biographies to emergent studies of civilisations and their contributions eg beginnings of democracy, contribution of technology eg bridge building of the Roman Empire and the heritage today of eg Greek Olympics.

Assessment is based on
- Main Lesson Books as a record of learning, projects, research, participation in historical plays, narrative recall.
- Annotated work samples as the basis for teacher judgements on standards of work achieved.

What would not be a focus until the following stage would be
- Australian history of the 20th century and beyond
- recognition of broader cause and effect relationships over time
- prescribed use of digital technologies for research and presentation of information and findings
Comparison at the end of Stage 3 - Classes 7 and 8

English Stage 3

Strengths of the Steiner Approach

An appreciation of the historical development of language and of the art of communication is helpful in guiding students towards responsible and imaginative language usage. When students pay attention to the inner landscape of language they learn how to enliven the way they use written and spoken words to communicate with others. The creative power of the living word has the potential to revitalize the ‘wasteland’ in culture (T.S. Eliot, 1963). The Steiner approach suggests that there is a close connection between nurturing the living qualities of language (Steiner, GA 299) and using sustainable practices in regard to caring for the world of nature.

PERSONAL AND SOCIAL COMPETENCE

Students become more aware of their emotional well-being; they express their feelings with growing confidence and become more skilled in their use of a variety of artistic modalities. They identify different moods and understand how different styles of writing convey specific feelings. They practice writing their own poetry and use a wider range of poetic devices. Students balance their inner quest for self-knowledge with their discovery of new global perspectives; they direct their attention towards the exploration of the outer world and away from the newly experienced unrest in their inner life. Students participate in class activities and value team learning and group interaction.

Students develop an independent life of feeling at this age which is often accompanied by emotional turbulence. It is helpful for them to recognize that the changing tides of emotions form part of the developmental pathway. Students draw strength from several elements of the English curriculum. Supported by the biographical element and strong emotional content in the selection of texts they are able to consolidate their learning into a meaningful world picture. In Class 8 they appreciate the opportunity to research their own interests, present a sustained/in-depth project in oral and written form and put on a major drama production which they bring to a new level of professionalism. In learning drama students build on the skills developed in the other units; they enhance their memory retention, and are able to further shape their emotions under the protective mask of a role in a play. They work cooperatively in teams and in this way nurture positive social interactions.

By sharing their interpretations and understanding of the themes and issues raised with their class colleagues, the in-depth study of a novel in class also facilitates collaborative teamwork which helps to build the social fabric of the class. Students are encouraged to enjoy reading and to select and read a wide range of fiction and non-fiction texts. Reading nurtures the imaginative capacity which in turn helps problem solving of all kinds and keeps thinking flexible and resilient (Robinson, 2007; Eisner, 2009). Students learn vicariously to empathise with characters in the texts and in time they are able to translate this ability into real life scenarios (Greene, 1995).

ETHICAL BEHAVIOUR

Students learn to make individual judgments. Guided by the study of the Arthurian legends in Class 7, they come to appreciate and understand the values associated with the Code of Chivalry: nobility, charity, abstinence, truthfulness, mercy, purity, love of humankind and loyalty. The attention paid to language as a living organism and to the importance of students finding their authentic ‘voice’ as a socio-moral capacity has implications for the sustainability of the natural environment. A leading objective of the ‘Wish, Wonder and Surprise’ unit aims to engender an attitude of reverence and wonder towards Nature.

In Class 8 students struggle to identify and articulate their individual moral stance to world issues as they critically reappraise the ideals they have been given by their previous education (family and school). They build moral capacity by trying to balance the conflicting demands of their sharpening minds, newly awakened feeling capacity and their changing biology. Their youthful idealism is best supported when lesson content provides them with inspiring role models. English lessons encourage the growth of cultural literacy and awareness. Discernment, imaginative empathy, and interest in the inner lives of others are
also cultivated. Over the course of the units students develop a richer understanding of the significance of the moral choices they face as human beings.

**Factors of the Approach which influence Assessment**

The holistic orientation means that the educational goals include cognitive, socio-emotional and moral elements which are integrated into the subject areas, and designed to meet the developmental needs of the students. When making decisions on what knowledge, understanding and skills should be assessed, and how, it is necessary, from a Steiner perspective, to ensure that the strategies support goal achievement. In particular the Steiner approach is concerned to ensure that assessment methods are aligned with the Melbourne Goals.

Steiner pedagogy observes that complex levels of analytical thinking require a distancing from the world and an onlooker stance. If tasks involving high levels of abstraction are introduced too soon this can have the effect of promoting in students a distancing of themselves from the world and the adoption of a cynical attitude towards life. For this reason Steiner teachers design thinking-level tasks with the intention that they help students to connect with the world around them and to become empowered in terms of thinking things out for themselves, knowing how things work, and becoming technically proficient in a range of areas. Content topics that support students to build their connections to the world include for example the Year Seven themes of discovery and independence. This orientation applies to the developmental sequencing of skills as well where complex levels of analysis and abstraction are introduced more slowly. In Year 7 and 8 when intellectual questioning awakens it is understood to be important to try to preserve the characteristically noble and idealistic qualities of this birth so as to avoid the development of scepticism.

**Significant differences in regard to the Steiner English curriculum in Stage 3 include:**

- The sequence of skills relating to complex levels of analysis is introduced more gradually in the Steiner approach.
- The Steiner approach to the ACARA descriptors varies due to the emphasis placed on process rather than product which may have implications in relation to assessment and reporting and the way in which the skills are measured. The subjective and artistic nature of the skills call for a qualitative and descriptive reporting style.

**Rationale of the approach to Step One: Experiential learning**

During this stage the teacher scaffolds learning experiences based on tacit forms of knowing; it is important to note however that in the high school students take responsibility for and direct their learning more than in the primary school during this stage. 'Warm up’ activities: word/rhythm games (clapping/drumming), singing, choral speaking, role play may be included. The objective is to enliven and warm the students’ interest in the content topic by firing their ‘will’ nature. This may include physical activities but the underlying intention is to awaken the students to inner activity: to spark their intellectual curiosity by first enlivening their responses on the level of their bodies (senses, sentience, sensibility) and feelings.

In relation to the phenomenological methodology the introduction to the unit’s topic may begin with a focus on outer, structural or physical frameworks, for example timelines, historical overviews, description of period clothes, homes, activities. The close observation may move into the life and living qualities of the content and learning experience: students may notice what is life-giving and what is not; they may look closely at gestures and movements in illustrations of the period or in stories. As the three stages of content elaboration are repeated several times over the course of a unit, the framework of the study is systematically reinforced and deepened. Teachers may vary their pathway through the content selecting to first follow one strand through on the three levels before starting a further threefold process, or they may systematically introduce new content so that there is an overlap of the stages in every lesson, or they may move the content as a whole through the three stages. The main guideline is for the teacher to use a combination of artistic judgement and a form of teacher action research: to closely observe what activities are most enlivening during this phase (what works and why and for which students) so that their creative response to action in the moment is linked to a systematic process of reflective sharing and questioning. It is possible that a complete lesson plan may need to be put aside because of particular students' needs or the creative potential of a situation that arises.
**Step Two** incorporates a core element of the Steiner approach and provides a basis for ‘heart’ intelligence which is understood to embrace emotional, moral, and soul-spiritual aspects. One of the learning objectives of the artistic and multimodal activities is to support the *individuation* process of students – to assist them to express their individual voice, opinions, feelings and developing values; in this way the skills provide the foundation for the development of socio-emotional and spiritual-moral growth. While the ability to represent ideas and opinions creatively and visually is understood to foster the development of *higher order thinking skills*, during this stage students are expected to stay on the experiential level and not begin analytical interpretation too soon in terms of the process of learning in a single lesson unit.

**Step Three:** The Steiner approach strongly supports the view that students should be encouraged to think for themselves. Lesson objectives strive towards rigour in relation to thinking skills. However, as noted above, complex levels of analysis are introduced more slowly.

The Australian and Steiner Curricula are in alignment at the end of Stage 3 in English in all areas.

### OVERVIEW OF THE RELATIONSHIP BETWEEN THE AUSTRALIAN ENGLISH CURRICULUM STRANDS AND THOSE USED IN THE STEINER ENGLISH CURRICULUM

<table>
<thead>
<tr>
<th>ASCF English Step One: Learning Experience – <em>observing, taking in, describing</em></th>
<th>ACARA ENGLISH STRANDS AND SUB-STRANDS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STRAND ONE:</strong> Aesthetics theme – evolutionary development of the English language</td>
<td>LANGUAGE</td>
</tr>
<tr>
<td>Language for variation and change</td>
<td>Literature and context</td>
</tr>
<tr>
<td><strong>STRAND TWO:</strong> Interacting with others</td>
<td>Language for interaction</td>
</tr>
<tr>
<td><strong>STRAND THREE:</strong> Reading, comprehending and responding to a wide range of texts</td>
<td>Text structure and organisation</td>
</tr>
</tbody>
</table>

| ASCF English Step Two: Multimodal and artistic activities - *characterising; responding on a feeling level* |  |
| **STRAND FOUR:** Artistic and creative responses to literary texts; characterisation | Responding to literature | Creating literature | Creating texts |

| ASCF English Step Three: Conceptual knowledge and skills – *interpreting, analysing, evaluating* |  |
| **STRAND FIVE:** Applying language and literacy skills in the editing and evaluating of written and spoken assignments | Expressing and developing ideas | Creating literature | Creating texts |
| | Text structure and organisation | Examining literature | Interacting with others |

| **STRAND SIX:** Interpreting, analysing and evaluating elements of style and context in written and spoken assignments | Language for interaction | Responding to literature | Interacting with others |

| **STRAND SEVEN:** Publishing and presenting written and spoken assignments | Language variation and change | Literature and context | Texts in context |
| Review Aesthetics theme | | | Interpreting, analysing and evaluating |
| | | | Interacting with others |
Comparison of Australian Curriculum and ASCF at end of Stage Three

Mathematics Stage 3

Strengths of the Steiner Approach

During this stage students develop critical thinking as the faculties of intellectual thought continue to awaken within them. They increasingly encounter and employ causative logic in their experience of Mathematics. Students enjoy active and interactive problem solving opportunities; they work together in pairs, teams and as a whole class to consider and develop solution strategies to a variety of problems. They enjoy exercising and trialling their emergent reason and sense of discernment. All the topics are imbued with a creative element that encourages the students to look at Mathematics from a variety of perspectives. Creative thinking skills are encouraged as a means of developing original or alternative approaches to problem statement and solution. Geometry is appreciated both as an accurate visual and artistic representation of form, and as a means of discovering the properties of shapes.

CRITICAL AND CREATIVE THINKING

In Class 7 for example, the introduction of Algebra represents a major conceptual leap forwards for the students. While working with the concrete, logical rules and processes bring the children into their thinking realm their newly-found logical reasoning skills are applied to the representation and integration of the concrete with the abstract. The rules and processes of Algebra are developed out of working with simple formulae and the use of pronumerals, brackets and negative numbers in equations as a technique for solving practical problems. During this topic, the aims are to engender in the students an appreciation of how general rules of arithmetic become clear through algebra, and to enable the children to grasp the principle of balance in an equation.

SOCIO-EMOTIONAL UNDERSTANDING

In Class 8 the students are offered the unique opportunity of exploring the place of the human being within the rhythms of the universe by investigating the relationship of breathing and heartbeat to the Platonic cosmic year, heavenly circles, the seasons, the nature and measurement of time and the circle/spiral of fifths in music. The circle is discussed both as a symbol and as a geometric shape – its diameter, circumference, pi, area etc. are all considered. The curves and forms generated by moving circles, such as the helix and cycloid are also studied. The ‘Change and Rhythms’ unit seeks to evoke in the students both a Mathematical understanding and a rich inner experience of their relation to the world of cyclical change and rhythm. At a time where they are in danger of losing a reverent picture of the dynamic cosmos in which they live, the exploration serves to renew their sense of wonder at being part of something far larger and more meaningful than they at first realise. In addition, a significant objective of the unit encourages students to appreciate the fact that Mathematics has its own intrinsic value and beauty, and offers them the opportunity to enjoy experiencing the elegance and diverse applications of the subject.

INTERCULTURAL UNDERSTANDING

Students appreciate that the evolution of Mathematics has taken place within the context of the development of human culture over the course of several different epochs of history. They are presented with the biographies and contributions of Mathematicians from cultures as diverse as the classical Greek and Mediterranean civilizations, Persian and Middle East cultures, Egyptian, Arabic and Islamic cultures, as well as European, Asian, African and Aboriginal and Torres Strait Islander cultures. Students learn to appreciate and respect the cultural differences between people and build a capacity for imaginative empathy, which is understood to provide a firm foundation for moral conscience, ecological awareness and global citizenship.

INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) COMPETENCE

In year 8, the students are exposed to digital technologies in their study of Mathematics. They learn to use ICT appropriately and effectively in the representation and solution of problems. Digital technologies can engage students and allow for deeper understanding of mathematical concepts, but the primary focus remains on the development of robust thinking and problem solving skills, which can then be applied to the students’ work with ICT. ICT can be used in all topics in year 8, but is particularly useful in the constructions of tables and graphs, the representation and transformation of compound forms and the Platonic Solids, dealing with repetitive calculations such as interest on loans and investments, or the representation of the fluctuations in share prices and exchange rates etc.
LINKS TO OTHER LEARNING AREAS

In general the close interrelationship of subject areas in ASCF strengthens the crossover of the foundational skills students develop in Mathematics. The Mathematics topics are aligned to other subject areas such as the link with Science, History, Art and English in topic 8.1; Art, Science, History, and Eurythmy in topic 8.2; Science and English in topic 8.3; Art and Science in topic 8.4; History and English in topic 8.5.

Factors of the Approach which influence Assessment

The holistic orientation means that the educational goals include cognitive, socio-emotional and moral elements which are integrated into the subject areas, and designed to meet the developmental needs of the students. When making decisions on what knowledge, understanding and skills should be assessed, and how, it is necessary, from a Steiner perspective, to ensure that the strategies support goal achievement. In particular the Steiner approach is concerned to ensure that assessment methods are aligned with the Melbourne Goals.

Significant differences in regard to the Steiner Mathematics curriculum in Stage 3 include:

- The sequence of skills relating to complex levels of analysis is introduced more gradually in the Steiner approach. CONVERGENCE: The end of the stage.
- The theme of chance and probability is related to the natural and human worlds rather than being treated as a mathematical concept that does not connect with reality.

Curriculum skills and content that either vary or are postponed to a further stage:

The Australian and Steiner Curricula are in alignment at the end of Stage 3 in Mathematics in all areas except:

- Data representation and interpretation one descriptor convergent in Class 9 (Mathematics 9.1).

<table>
<thead>
<tr>
<th>CLASS 8</th>
<th>Australian curriculum</th>
<th>Steiner curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data representation and interpretation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explore the variation of means and proportions in representative data</td>
<td></td>
<td>Mathematics 9.1</td>
</tr>
</tbody>
</table>
Comparison of Australian Curriculum and ASCF at end of Stage Three

Science Stage 3

Strengths of the Steiner Approach

As an introductory grounding to empirical scientific method, students are provided with the opportunity to:

train, sensitize and sharpen their sense observations; understand the difference between observations and explanations; use their imaginations to build a picture of the underlying causative principles.

CRITICAL AND CREATIVE THINKING

In Year 7 the development of critical and creative thinking is built through lessons, rich in experience, where students are required to separate observations from explanations. Experiences are typically left unexplained on the day of the experience and students are expected to make pure descriptions using written and visual means. On the subsequent day, through questions, riddles and classroom discussion, the experiences are explored in depth with the engagement of critical discernment and experience based thinking. Using this method, causative laws, moral issues, environmental issues and philosophical issues are explored in an age appropriate way. The different areas of Year 7 Science 7.1 -7.5 engage thinking in qualitative different ways, each exercising another aspect of thinking.

In Year 8 the development of critical and creative thinking is furthered from the year 7 lessons. They too are rich in experience, where students are required to separate observations from explanations, however, it is no longer as possible for students to see the force that moves in all directions (pressure) in a fluid, or the transmission of a wave of pressure and rarefaction (a sound wave) in the atmosphere. To understand such phenomena the student has to use their imagination to build a picture of the underlying causative principles – a form off primary model building. The understanding of the phenomena requires a greater degree of abstraction than the thought processes in year 7. For example the elements of galvanic electricity explored in year 7 become now the elements of electromagnetism – where the themes of electricity and magnetism unite in a way that has underpinned much of modern technology. The different areas of Year 8 Science 8.1 -8.5 engage thinking in qualitatively different ways, each exercising another aspect of intelligence.

LITERACY AND NUMERACY

During this stage students’ science learning extends their literacy skills as they experience phenomena and equipment which is new to them and which they are required to describe. A new vocabulary, which is sometimes topic exclusive, is learnt and practiced both orally in the classroom and in written form. The reporting of phenomena develops a further literacy - confidence in being able to record accurate observations upon which further deliberation is based. Students create their own main lesson 1 ‘text’ book which include different text types and visual representations (diagrams tables, schematic drawings) which demonstrate ways of summarising what has been learned from a particular topic.

There is ample scope for numeracy to be enriched and furthered. Examples from Class 7 include working with ratios in the measurement of the frequency ratios of musical intervals, the numerical relationship between frequency and pitch, the expansion indexes of materials being heated, the calibration and use of temperature scales, the work advantage ratios of lifting weights using pulleys in different combinations and the gearing of bicycles. In Class 8 students calculate the speed of sound in air water; sinusoidal waveforms in terms of amplitude and frequency; hydraulic and atmospheric pressure.

PERSONAL AND SOCIAL COMPETENCE

The learning of inspiring biographies of great scientists who are powerful role models of hard work, creativity and endurance (e.g. Michelangelo’s biography in relationship to the chemistry of lime in the fresco painting of the Sistine Chapel), is character building, helps to enliven the content and provides human interest.

Factors of the Approach which influence Assessment

The holistic orientation means that the educational goals include cognitive, socio-emotional and moral elements which are integrated into the subject areas, and designed to meet the developmental needs of the students. When making decisions on what knowledge, understanding and skills should be assessed, and how, it is necessary, from a Steiner perspective, to ensure that the strategies support goal achievement. In particular the Steiner approach is concerned to ensure that assessment methods are aligned with the Melbourne Goals.

1 3-week blocks of lessons
The table below identifies the alignment between the Australian and Steiner curricula but also highlights areas where there are variations in emphasis and interpretation.

**Significant differences in regard to the Steiner Science curriculum in Stage 3 include:**

- The emphasis that is placed on identifying the incremental steps whereby students move from concrete operations to formal operations;
- A more gradual introduction to causal logic and abstract thinking.

Ensuring that students are able, as much as possible, to gain an overview of the lesson content and tasks, and that they:

- first gain confidence in reporting and explaining their observations
- move from a concrete base towards increasing complex conceptual tasks;
- learn how to create an imaginative picture in their minds of the principle at work in the phenomenon under study;
- build a picture in their minds of imagined processes that demonstrate the principle at work;
- are able to establish a firm foundation for the later construction of abstract conceptual models;
- understand how physical law is embodied in the human organism;
- move from experience into abstraction following a more historical path of discovery is preferred.

**WHERE CONVERGENCES COME LATER**

The Australian and Steiner Curricula are in alignment at the end of Stage 3 in Science in most areas, particularly in the categories of Science as Human Endeavour and Science Inquiry Skills. The main difference, apparent in the category of Science Understanding, is one of philosophical orientation, which has ramifications in terms of variations in content and methods. The Steiner Approach identifies a further stage of transition between that of ‘concrete operations’ and ‘formal operations’. Although it is recognised that abstract thinking begins in this stage, conceptual tasks are still grounded in experiential learning and real life observations as much as possible.

**End of Stage 3: Classes 7 and 8**

<table>
<thead>
<tr>
<th>CLASS 7</th>
<th>SCIENCE UNDERSTANDING: Physical sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian curriculum</td>
<td>Steiner curriculum</td>
</tr>
<tr>
<td>2. Earth’s gravity pulls objects towards the centre of the Earth.</td>
<td>Science 10.1 – Physics, Mechanics</td>
</tr>
</tbody>
</table>

**Explanation:**

Here the emphasis is on discernment by the students of a phenomenon they can overview that has to do with cause and effect of bodies in contact; connection of vibration and pitch; the lever law, pulleys, gears on a bike. The abstract concept of gravity is left to Science 10.1 Physics: Mechanics. The topic is covered in such subjects within the Steiner curriculum, as Bothmer Gymnastics (sometimes known as Spatial Dynamics).

| Australian curriculum | Steiner curriculum |

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[2] See the Educational Foundations Paper and Attachment 3a
### CLASS 8

**SCIENCE UNDERSTANDING: Biological sciences**

<table>
<thead>
<tr>
<th>Australian curriculum</th>
<th>Steiner curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cells are the basic units of living things and have specialised structures and functions (ACSSU149)</td>
<td>CONVERGENCE: Science 7.4 The Human Being in the Environment Science 8.1 Physical Laws:Human Organs; Science 10.5: Biology –Circulatory System and the Inner Organs</td>
</tr>
<tr>
<td>2. Multi-cellular organisms contain systems of organs that carry out specialised functions that enable them to survive and reproduce. (ACSSU150)</td>
<td>CONVERGENCE: Science 7.4 The Human Being in the Environment Science 8.1 Physical Laws:Human Organs; Science 10.5: Biology –Circulatory System and the Inner Organs</td>
</tr>
</tbody>
</table>

**SCIENCE UNDERSTANDING: Chemical sciences**

<table>
<thead>
<tr>
<th>Australian curriculum</th>
<th>Steiner curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>The properties of the different states of motion and arrangement of particles (ACSSU151)</td>
<td>Science .10.3 Salt Chemistry 10.4 Chemistry Technology 10.8 Electricity 10.9 Atomic Theory</td>
</tr>
<tr>
<td>Differences between elements, compounds and mixtures can be described at a particle level (ACSSU152)</td>
<td>Science 10.3 Salt Chemistry 10.4 Chemistry Technology 10.8 Electricity 10.9 Atomic Theory</td>
</tr>
</tbody>
</table>

**SCIENCE UNDERSTANDING: Earth and space sciences**

<table>
<thead>
<tr>
<th>Australian curriculum</th>
<th>Steiner curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sedimentary, igneous and metamorphic rocks contain minerals and are formed by processes that occur within Earth over a variety of timescales (ACSSU153)</td>
<td>CONVERGENCE: Science 6.1 Introduction to Geology; Science 9.6 Geology: The Forces that Shape the Earth;</td>
</tr>
</tbody>
</table>
Comparison of Australian Curriculum and ASCF at end of Stage Three

History Stage 3

Strengths of the Steiner Approach

- Content themes match the students' interest in expanding knowledge and include history stories of new perceptions, world explorations and discoveries.
- The approach to teaching history of the Middle Ages and the Renaissance period is intellectually stimulating and emotionally enriching. It fosters in the students, who are now experiencing unrest in their inner lives, a balancing and healthy interest in global perspectives and the outer world.
- The approach to teaching history of the Middle Ages and the Renaissance period with its emphasis on new ideas and cultural advances is intellectually stimulating and emotionally enriching. It offers the students who are now experiencing unrest in their inner lives, a balancing and healthy interest in global perspectives and the outer world. The students examine, discuss and reflect on issues raised through historical inquiries.
- Historical biographies remain an important vehicle for the introduction of historical material. Information is presented through narrative using images that will touch the students' imagination and feelings.

CRITICAL AND CREATIVE THINKING
While activities that exercise the maturing intellect are now important, creative and imaginative responses to historical material form an essential part of their experience. Class 7 students are quick to decide whether they like or don't like a particular historical figure. This can be used to spark discussions about bias in research and writing. The study of history in class 8 requires the students to consider sometimes conflicting evidence of human action in the past. They evaluate and make informed judgements about tempestuous and emotional events. In doing so they learn how to question and assess evidence and to distinguish between evidence and interpretation. They are presented with a multiplicity of perspectives and contrasting interpretations. They learn move around events and human experiences and regard them from many points of view. Discussions and debates give students opportunities to refine both their thinking skills and their ability to communicate their ideas and opinions.

PERSONAL AND SOCIAL COMPETENCE
Biographical studies play a significant role in the presentation of historical information. In studying the lives of individuals who exemplify inspiring qualities or who have struggled with obstacles and failings, students recognise and reflect on human attributes and on questions of social responsibility. They examine and discuss issues raised through historical inquiries. They examine multiple perspectives of events and consider the background, the human experience behind those perspectives. They listen to the points of view of their class colleagues and through reflection and discussion clarify their own. Students participate in various class activities that involve team learning and group interaction. They consider multiple perspectives of events and consider the background, the human experience behind those perspectives. They listen to the points of view of their class colleagues and through reflection and discussion clarify their own. They carry out discussions and research co-operatively in teams, and in this way nurture positive social.

LINKS TO OTHER LEARNING AREAS
Historical studies are integrated with learning in other subject areas such as related elements of music and art, the exploration of Medieval and Renaissance technologies in science, poetry, literature and language in English and the Voyages of Discovery in Geography. The themes related to the Middles Ages and the Renaissance are extended in Year 8 to the Industrial Revolution and the Age of Romanticism. The English curriculum includes studies of Middle Ages and the Renaissance literature and the study of a Shakespearean work. The historical studies of Class 8 are integrated with other subject areas particularly English, Art and music. Students will study classic novels of the period along with the poetry of the Romantics.
Factors of the Approach which influence Assessment

The holistic orientation means that the educational goals include cognitive, socio-emotional and moral elements which are integrated into the subject areas, and designed to meet the developmental needs of the students. When making decisions on what knowledge, understanding and skills should be assessed, and how, it is necessary, from a Steiner perspective, to ensure that the strategies support goal achievement. In particular the Steiner approach is concerned to ensure that assessment methods are aligned with the Melbourne Goals.

Significant differences in regard to the Steiner History curriculum in Stage 3 include:

- Different sequencing of topics
- The study of Ancient history is begun in Class 5 largely through narrative, biography and practical and artistic cultural experiences, mapping and exploration of primary literary and artistic sources.
- A more formal and analytical study of Ancient civilisations forms the theme for Class 10 history.
- During the Primary school the Steiner curriculum gradually builds up a sequential overview of the development of the main historical epochs. The unfolding panorama continues into Classes 8 and 9. In the High School several of the earlier themes and topics are revisited; at the same time, the Modern period of history moves into centre stage.

WHERE TOPICS FOLLOW A DIFFERENT SEQUENCE

The Australian and Steiner Curricula are in alignment at the end of Stage 3 in History in most areas. The main difference, apparent in the category of Historical Knowledge and Understanding, relates to curriculum topic choice. Many of the topic choices are strongly supported by both tradition and research relating to developmental indications. The Steiner curriculum is an internationally based one and there is some level of accordance between curricula in different countries.

The table below identifies the related convergences between the Australian and Steiner curricula and highlights areas where there are variations in emphasis and interpretation.

End of Stage 3: Classes 7 and 8

<table>
<thead>
<tr>
<th>CLASS 7</th>
<th>HISTORICAL KNOWLEDGE and UNDERSTANDING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Steiner curriculum</td>
</tr>
<tr>
<td>Australian curriculum</td>
<td></td>
</tr>
<tr>
<td><strong>The Ancient World</strong></td>
<td>CONVERGENCE:</td>
</tr>
<tr>
<td>Overview content identifies important features of the period (approximately 60 000 BCE – c.650 CE) as part of an expansive chronology that helps students understand broad patterns of historical change.</td>
<td>5.1 Ancient Cultures</td>
</tr>
<tr>
<td>5.2 Ancient Greece</td>
<td></td>
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<tr>
<td>6.1 Ancient Rome</td>
<td>10.1 Early Human Societies</td>
</tr>
<tr>
<td>10.2 Ancient Cultures</td>
<td></td>
</tr>
<tr>
<td>Explanation:</td>
<td>The study of Ancient history is begun in Class 5 largely through narrative and biography. A more formal and analytical study of Ancient civilisations forms the theme for Class 10 history.</td>
</tr>
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<table>
<thead>
<tr>
<th>DEPTH STUDIES AND ELECTIVES</th>
<th>Steiner curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian curriculum</td>
<td></td>
</tr>
<tr>
<td><strong>Investigating the ancient past</strong></td>
<td>CONVERGENCE:</td>
</tr>
<tr>
<td>Students build on and consolidate their understanding of historical inquiry from previous years in depth, using a range of sources for the study of the ancient past</td>
<td>6.1 Ancient Rome and The History of the Roman Empire</td>
</tr>
<tr>
<td>10.1 Early Human Societies</td>
<td>10.2 Ancient Cultures</td>
</tr>
<tr>
<td>Explanation:</td>
<td>The study of Ancient history is begun in Class 5 largely through narrative and biography. A more formal and analytical study of Ancient civilisations forms the theme for Class 10 history.</td>
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</tbody>
</table>
## Class 8
### Historical Knowledge and Understanding

<table>
<thead>
<tr>
<th>Australian Curriculum</th>
<th>Steiner Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Ancient to the Modern World</strong>&lt;br&gt;Overview content identifies important features of the period (c.650 CE – 1750) as part of an expansive chronology that helps students understand broad patterns of historical change.</td>
<td><strong>Convergence:</strong>&lt;br&gt;7.1 The Middle Ages&lt;br&gt;7.2 The Renaissance World&lt;br&gt;8.1 The Age of Revolutions</td>
</tr>
</tbody>
</table>

**Explanation:**
During the Primary school the Steiner curriculum gradually builds up a sequential overview of the development of the main historical epochs. The unfolding panorama continues into Classes 8 and 9. In the High School several of the earlier themes and topics are revisited; at the same time, the Modern period of history moves into centre stage.
Comparison at the end of Stage 4 - Classes 9 and 10

English Stage 4

Strengths of the Steiner Approach

An appreciation of the historical development of language and of the art of communication is helpful in guiding students towards responsible and imaginative language usage. When students pay attention to the inner landscape of language they learn how to enliven the way they use written and spoken words to communicate with others. The creative power of the living word has the potential to revitalize the ‘wasteland’ in culture (T.S. Eliot, 1963). The Steiner approach suggests that there is a close connection between nurturing the living qualities of language (Steiner, GA 299) and using sustainable practices in regard to caring for the world of nature.

The Class 10 units provide an overview of the relationship between the development of human consciousness and literary forms. Students are given the opportunity to develop an understanding of the importance of literary expression by tracing the evolutionary growth of the mythological sagas through significant cultural periods.

INTERCULTURAL UNDERSTANDING

The Australian literature unit (9.1) offers students the opportunity to better understand their roots and to strengthen their relationship with their community and country. By exploring the development of Australian identity students are better able to build their own developing sense of self. The inclusion of Aboriginal, Torres Strait Islander and migrant literature presents students with material that can inform their sense of justice. By appealing to their imaginative faculties the unit also encourages students to develop empathy and respect for people who have different cultural values and beliefs.

Literature learning in general plays an essential role in the development of the students’ self-identity in relation to society and their place in the world. Literary texts are therefore selected in the light of their potential for enriching students’ lives and expanding the scope of their experience. Students learn about the world vicariously through the characters in the story – by following the characters’ experiences of they learn about different historical periods, distant places and foreign cultures, and gain insight into the inner worlds of other human beings. This learning supports the growth of empathy; while the inclusion of texts drawn from multi-cultural contexts provides students with the opportunity to train their sense of social justice, the conscious fostering of the imaginative capacity greatly assists the development of flexible, resilient and enlivened thinking skills, problem solving abilities and the growth of moral awareness.

PERSONAL AND SOCIAL COMPETENCE

The Class 10 student yearns to understand the world and to find their sense of purpose within it. The Class 9 search for balance and harmony begins to bear fruit. The development of increased clarity of thought and an increasing ability to form balanced judgments helps pupils to extricate themselves from the unstable nature of their emotional lives. There is a greater capacity for reflection, which can lead on the one hand to self-consciousness and the pain of growing existential awareness, on the other they become capable of great feats of compassion, endurance, intellectual and physical prowess. The students begin to discover their own inner freedom to determine their pathway through life. Relationships between the sexes form; social relationships can be healthy or get lost in group activities. It is very important for students to develop self-esteem.

The Birth of Literature unit (10.1) focuses on the birth pangs of a new stage in human development – one that aptly mirrors the students’ own awakening intelligence. Odysseus, as an early example of an intellectually rigorous, ego-directed hero who undergoes hazards equivalent to the contemporary allure of “sex, drugs, and rock ‘n roll” successfully manages anagnorisis – self-recognition that can lead to individual growth. In the Drama unit (10.3) the stage-focused content and the opportunities for acting, character development and role-play assist the students to build a firm foundation to develop initiative, co-operation and other social skills.
Factors of the Approach which influence Assessment

The holistic orientation means that the educational goals include cognitive, socio-emotional and moral elements which are integrated into the subject areas, and designed to meet the developmental needs of the students. When making decisions on what knowledge, understanding and skills should be assessed, and how, it is necessary, from a Steiner perspective, to ensure that the strategies support goal achievement. In particular the Steiner approach is concerned to ensure that assessment methods are aligned with the Melbourne Goals.

Significant differences in regard to the Steiner English curriculum in Stage 4 include:

- The sequence of skills relating to complex levels of analysis is introduced more gradually in the Steiner approach.
- The Steiner approach to the ACARA descriptors varies due to the emphasis placed on process rather than product which may have implications in relation to assessment and reporting and the way in which the skills are measured. The subjective and artistic nature of the skills call for a qualitative and descriptive reporting style.

Rationale of the approach to Step One: Experiential learning

During this stage the teacher scaffolds learning experiences based on tacit forms of knowing; it is important to note however that in the high school students take responsibility for and direct their learning more than in the primary school during this stage. ‘Warm up’ activities: word/rhythm games (clapping/drumming), singing, choral speaking, role play may be included. The objective is to enliven and warm the students’ interest in the content topic by firing their ‘will’ nature. This may include physical activities but the underlying intention is to awaken the students to inner activity: to spark their intellectual curiosity by first enlivening their responses on the level of their bodies (senses, sentience, sensibility) and feelings.

In relation to the phenomenological methodology the introduction to the unit’s topic may begin with a focus on outer, structural or physical frameworks, for example timelines, historical overviews, description of period clothes, homes, activities. The close observation may move into the life and living qualities of the content and learning experience: students may notice what is life-giving and what is not; they may look closely at gestures and movements in illustrations of the period or in stories. As the three stages of content elaboration are repeated several times over the course of a unit, the framework of the study is systematically reinforced and deepened. Teachers may vary their pathway through the content selecting to first follow one strand through on the three levels before starting a further threefold process, or they may systematically introduce new content so that there is an overlap of the stages in every lesson, or they may move the content as a whole through the three stages. The main guideline is for the teacher to use a combination of artistic judgement and a form of teacher action research: to closely observe what activities are most enlivening during this phase (what works and why and for which students) so that their creative response to action in the moment is linked to a systematic process of reflective sharing and questioning. It is possible that a complete lesson plan may need to be put aside because of particular students’ needs or the creative potential of a situation that arises.

Step Two incorporates a core element of the Steiner approach and provides a basis for ‘heart’ intelligence which is understood to embrace emotional, moral, and soul-spiritual aspects. One of the learning objectives of the artistic and multimodal activities is to support the individuation process of students – to assist them to express their individual voice, opinions, feelings and developing values; in this way the skills provide the foundation for the development of socio-emotional and spiritual-moral growth. While the ability to represent ideas and opinions creatively and visually is understood to foster the development of higher order thinking skills, during this stage students are expected to stay on the experiential level and not begin analytical interpretation too soon in terms of the process of learning in a single lesson unit.

Step Three: The Steiner approach strongly supports the view that students should be encouraged to think for themselves. Lesson objectives strive towards rigour in relation to thinking skills. However, as noted above, complex levels of analysis are introduced more slowly.
The ASCF English is fully convergent at the end of Year 10.

OVERVIEW OF THE RELATIONSHIP BETWEEN THE AUSTRALIAN ENGLISH CURRICULUM STRANDS AND THOSE USED IN THE STEINER ENGLISH CURRICULUM

| ASCF English Step One: Learning Experience – observing, taking in, describing | ACARA ENGLISH STRANDS AND SUB-STRANDS |
|---|---|---|
| **STRAND ONE:** Aesthetics theme – evolutionary development of the English language | LANGUAGE | LITERATURE | LITERACY |
| | Language for variation and change | Literature and context | Texts in context |
| **STRAND TWO:** Interacting with others | Language for interaction | Responding to literature | Interacting with others |
| **STRAND THREE:** Reading, comprehending and responding to a wide range of texts | Text structure and organisation | Examining literature | Interpreting, analysing, evaluating |

| ASCF English Step Two: Multimodal and artistic activities - characterising; responding on a feeling level |
|---|---|---|
| **STRAND FOUR:** Artistic and creative responses to literary texts; characterisation | Responding to literature | Creating literature | Creating texts |

| ASCF English Step Three: Conceptual knowledge and skills – interpreting, analysing, evaluating |
|---|---|---|---|
| **STRAND FIVE:** Applying language and literacy skills in the editing and evaluating of written and spoken assignments | Expressing and developing ideas | Creating literature | Creating texts |
| | Text structure and organisation | Examining literature | Interpreting, analysing and evaluating |
| **STRAND SIX:** Interpreting, analysing and evaluating elements of style and context in written and spoken assignments | Language for interaction | Responding to literature | Interacting with others |

<table>
<thead>
<tr>
<th><strong>STRAND SEVEN:</strong> Publishing and presenting written and spoken assignments Review Aesthetics theme</th>
<th>Language variation and change</th>
<th>Literature and context</th>
<th>Texts in context</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Interpreting, analysing and evaluating</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Interacting with others</td>
</tr>
</tbody>
</table>
Comparison of Australian Curriculum and ASCF at end of Stage Four
Mathematics Stage 4

Strengths of the Steiner Approach

During this stage students increasingly display an ability to make balanced judgements that can be articulately justified. They seek for deeper insight into situations, and apply the conceptual tools of analytical thinking to practical contexts and more complex processes. More accurate observation and deeper understanding allows the students to identify connections and make inferences about the more subtle aspects of a situation. They work with more accuracy and become more adept at dealing with problems requiring the application of a sequential progression of logic. ICT is increasingly used in Mathematical contexts, and students use technology confidently and responsibly as a tool to manage, interpret and represent data. All the topics are imbued with a creative element that encourages the students to look at mathematics from a variety of perspectives. Creative thinking skills are encouraged as a means of developing original or alternative approaches to problem statement and solution. Geometry is appreciated both as an accurate visual and artistic representation of form, but also as a collection of theorems developed out of the application of sequential logic that can be employed to solve problems.

CRITICAL AND CREATIVE THINKING

The increased exposure to concepts that move out of the practical and into the abstract serves to nourish cognitive processes within the students that allow them to develop confidence in the power of their thinking. This provides students with the impetus to become confident, creative individuals, who are enterprising, show initiative, explore ideas, and use their creative abilities to make discoveries about the worlds around and within them.

SOCIO-EMOTIONAL UNDERSTANDING

The Class 10 unit on Sequence and Series extends the student’s concept of number beyond the finite. The Mathematical theory for Arithmetic, Geometric and Harmonic Sequences and Series is developed as a logical extension of the basic principles of number patterns. Practical applications of this theory are studied from sources as diverse as art, architecture and music, as well as the natural, built and business worlds. This topic brings the students to the realm of Mathematics that lies within but also extends beyond the boundaries of our direct experience. The patterns that express themselves in Mathematical Sequences find reflection in realms which can be experienced through our senses, such as nature, music, architecture and the human body. They form a continuum that extends to both the infinitesimal and the infinite. Through investigating patterns like the Fibonacci Sequence that give rise to the Golden Ratio, students can develop an appreciation for the role of Mathematics in describing the aesthetic elements of the world around them.

INTERCULTURAL UNDERSTANDING

The Class 10 unit on Trigonometry and Surveying focuses on the use and understanding of Trigonometry and its applications to areas as diverse as surveying, mechanics, navigation, engineering, physics, astronomy, mapping, military operations and construction. A thorough picture is presented of the historical significance and development of Trigonometry and Surveying, with emphasis on practical work, applications, mathematical theory and worked examples.

Australia has been surveyed and mapped by Indigenous peoples through their sacred song and oral ritual as long as there has been human habitation of the continent. Aboriginal and Torres Strait Islander peoples developed, recorded and transmitted an intimate knowledge of the land and their environment.

Elsewhere around the world, the Egyptians established farm boundaries five thousand years ago, and the builders of Stonehenge used simple surveying techniques five hundred years later. The basic principles of surveying have changed little since then, and students are brought a practical experience of an area of Mathematics that has contributed enormously to the knowledge human beings have gathered about the world around them.

Factors of the Approach which influence Assessment

The holistic orientation means that the educational goals include cognitive, socio-emotional and moral elements which are integrated into the subject areas, and designed to meet the developmental needs of the students. When making decisions on what knowledge, understanding and skills should be assessed,
and how, it is necessary, from a Steiner perspective, to ensure that the strategies support goal achievement. In particular the Steiner approach is concerned to ensure that assessment methods are aligned with the Melbourne Goals.

**Significant differences in regard to the Steiner Mathematics curriculum in Stage 3 include:**

- The sequence of skills relating to complex levels of analysis is introduced more gradually in the Steiner approach.
  - CONVERGENCE: The end of the stage.
- The theme of chance and probability is related to the natural and human worlds rather than being treated as a mathematical concept that does not connect with reality.

The ASCF Mathematics Curriculum is fully converge at the end of Year 10.

**Comparison of Australian Curriculum and ASCF at end of Stage Four**

**Science Stage 4**

**Strengths of the Steiner Approach**

Building on the firm foundation of the previous stage students are now able to move to a new level of intellectual discernment and evaluation. Their ability to integrate their studies in different topic areas strengthens, as does their ability to synthesise disparate ideas and observations, and to predict likely outcomes. Towards the end of the stage their thinking reaches a new threshold as they prepare for the more philosophical level of understanding of the next stage.

**CRITICAL AND CREATIVE THINKING**

In Class 9 the type of discernment exercised in the understanding of phenomena requires a greater level of integration of experience. For example, the understanding of telecommunication, the transmission of voice by electrical impulses, involves integrating the understanding of the physics of sound transmission in air, the relationship between the elements of an electric circuit (voltage, current and resistance) in a microphone, the way that an electromagnetic field is used to amplify sound in a speaker, and the complex switching required in a telephone exchange. The understanding of the processes that accompany fermentation of sugar to alcohol and then to vinegar, ether and esters, requires the student to develop certainty in their own following of the process of transformation inwardly, based on the way that volatility increases, carbon content varies and solubility on water varies (Science 9.3 and 9.4). In Science 9.5 a sense for reading form and what it means is developed in the study of gesture in comparative anatomy. This exercising of inner experience in understanding, develops an aesthetic sense for the subject which invites a deeper engagement with science than the mere learning of information.

In year 10, the level of intellectual evaluation required for the integration of laws from different areas of science into the understanding of significant applications (Science 9.1-7), is now taken further into a more theoretical and fundamental level of understanding. Understanding the laws of force and energy, expressed, for example in Newtonian mechanics requires a degree of theoretical discernment that is more challenging than understanding the basic workings of a telephone. It enables thinking to grasp some of the happenings in the world in a predictive way. The various Class 10 Science units engage the students’ thinking in qualitatively different ways, strengthening their ability to think creatively and confidently in preparation for the more philosophical discernment required for the topics of Classes 11 and 12.

**LITERACY AND NUMERACY**

The introduction of new theoretical concepts means that students expand their subject-specific vocabulary; laboratory lessons are introduced which require the students to increase their practical scientific literacy (Science 9.2 and 9.4). Topics now achieve a level of refinement and integration in their technological application, e.g. galvanic electricity and simple mechanics of Science 7.2, electromagnetism of Science 8.4, and the acoustics of Science 8.3 are interwoven in a way that demonstrates their contribution towards the foundation of systems of communication and transport that still form the main systems of our global society (see Science 9.1 and 9.2). The year 10 topics take the
level of abstraction to a new level: the topic of mechanics from previous years, now becomes a study of motion (kinematics), forces and materials (statics) and forces in movement (dynamics), (Science 10.1). The chemistry of salts (Science 10.3 and 10.4) involves understanding that in the convention of naming, for example in the salt sodium sulphate, the base potential of the salt is referred to in the first part of the name and the acid potential in the second part of the name. During this stage, the science subjects offer many opportunities for the furthering of numeracy.

PERSONAL AND SOCIAL COMPETENCE
The additional laboratory work demands a new level of skill and responsibility, which increases the confidence with which the adolescent approaches learning. Students realise that they can carry out quite complex construction e.g. bending glass and carrying out simple glass blowing, to make apparatus that serves the chemical process. The integration of hand skills with intellectual understanding satisfies the need of the adolescent to feel that they can understand and carry out actions which are part of the technology around them (Science 9.2 and 9.4).

The study of their own anatomy in relation to other vertebrates leads to a new relationship to self and their own intentionality (Science 9.5); and the study of the Earth and its processes of transformation to a new relationship to the planet we occupy. This unit is further enriched if it extends the study of the subject into the landscape in the form of an expedition. Students of this age are keen to know that their own thinking is related to operative laws in the world, for this awareness builds a new level of trust in their own intentionality and ability to influence the world in a positive way.

Ethical Behaviour
The themes for this age group are consciously chosen as there is an innate interest and need on the part of the adolescent for education on these selected topics. Understanding of technology and substance is an effective way for the adolescent to develop a relationship to issues that goes beyond the sensual. The chemistry lesson offer possibilities to discuss the effects of alcohol on consciousness in a way that is not ‘moralistic’. The study may for example involve inviting people from Alcoholics Anonymous to the class to describe the disease of alcoholism. The laboratory lessons of Science 9.4 allow the students to make alcohol and then transform it into a medicine – an experience that offers a relationship to the substance that is positive and enlightening. An ethical stance in relation to the environment is developed in the practical work that takes place in Science 9.7. Learning about salts, acids and bases can lead to an appreciation of how large scale effects can be the result of quite simple fundamental laws, for example the salinity crisis that effects large areas of Australia. The study of weather processes (Science 10.6) offers them the opportunity to understand one of the major contemporary controversies, global warming and the way that we understand it, while Science 10.2 and Science 10.7 provide practical ways that we can act in our modern world to address the problems e.g. carbon sequestration in the soil by organic humus building and sustainable building practice. This approach of both bringing awareness of large problems as well as ways of solving them are powerful incentives for adolescents to take up their growing responsibilities in relation to their life styles.

Factors of the Approach which influence Assessment
The holistic orientation means that the educational goals include cognitive, socio-emotional and moral elements which are integrated into the subject areas, and designed to meet the developmental needs of the students. When making decisions on what ‘knowledge, understanding and skills’ should be assessed, and how, it is necessary, from a Steiner perspective, to ensure that the strategies support goal achievement. In particular the Steiner approach is concerned to ensure that assessment methods are aligned with the Melbourne Goals.
Differences in regard to the Steiner Science curriculum in Stage 4 include:

- Human Biology: Whereas in class 8 the emphasis is placed on developing a relationship to the body as a part of the world, in class 9, the emphasis is on understanding the human being as a subjective being, and the bodily basis of Intentionality. This includes beginning to understand how intentionality is part of our bodily nature; neuronal networking - in its relationship to intentionality.

- Geology and Horticulture: In Class 9 the focus is on matter and energy flowing through ecosystems. Carbon sequestration is an important consideration in these times of carbon increase in the atmosphere as a greenhouse gas.

- In Class 9 the emphasis is on understanding organic compounds qualitatively in connection to their occurrence in the plant and between the polarities of Carbon and Hydrogen. From a social emotional perspective – this approach is much more inclusive of all students and allows an inner connection to the understanding of chemistry which often is felt to be barren because of the abstract mathematical models which are taught as the basis of the subject. See: Science 9.3 Chemistry -Transformation of Plant Substances; Science 9.4 Chemistry Technology: Transformation of Plant Substances (wine making to medicine making).

- In Class 10, the chemistry of salts and their role as the offspring and the origin of acids and bases, is highlighted. The emphasis is on a holistic approach to chemistry which connects substance to life and landscape.

- For clarity for recognition purposes the curriculum identifies the big bang theory, natural selection and genetics content inclusions by the end of Year 10.

- For recognition purposes atomic theory and the periodic table of elements have been included by drawing down the Year 11 Topics Science 11.1, 11.2 as 10.8, 10.9.

The Australian Steiner Curriculum Framework: Science is convergent by the end of Year 10.

Comparison of Australian Curriculum and ASCF at end of Stage Four

History Stage 4

Strengths of the Steiner Approach

Students have a rich historical understanding gained from the extensive use of mythological, historical and biographical content and stories during their primary school years. They bring to the increasingly complex conceptual content a wealth of imaginative pictures, flexible, resilient learning styles and the ability to weave together critical and creative thinking. Students are practiced in working with a multiplicity of perspectives, contrasting interpretations and competing historical accounts. They are accustomed to viewing History as a terrain that inspires ethical contemplation; they are open to studying the stories of individuals and situations in the past as a way of testing their own moral sense, of honing it against some of the real complexities individuals have faced in difficult settings.

CRITICAL AND CREATIVE THINKING
The reasoning skills that emerge with the adolescent’s development of formal thought allow an abstract understanding of causality and the often complex patterns of relationships between historical events and their consequences. There is a continuing need for concrete illustrations and instructional approaches to enhance understanding of historical studies. The study of Archaeological evidence and evaluation of archaeological opinion and techniques offer both inductive and deductive learning experiences. The skills of critical social inquiry and investigation are important tools. The students can now examine how their own thinking is influenced by personal values, cultural and belief systems. They explain and evaluate their own values and ethical dilemmas. They apply conscious thinking strategies when
examining personal values and beliefs. Students use strategies such as debate, discussion and building consensus to examine complex issues. The Class 10 student is able to construct and test hypotheses. They are able to distinguish valid arguments and are prepared to change their position on issues or suspend judgement when it is challenged by factors including weight of evidence and reasoned argument. By the end of Class 10 students compare the present with the past evaluating the consequences of past events and decisions and determining the lessons that were learned.

PERSONAL AND SOCIAL COMPETENCE
The Class 10 student is examining his or her own thinking in a new, more adult way. Examining historical material brings questions about the nature of the human being, the nature of consciousness, relatedness and moral interactions. The teacher provides guiding questions rather than answers. Studies lead to discussion and consideration of the relationship between thinking and choices and the experiences produced by those choices. In analysing history and historical turning points they observe that new thoughts lead to new behaviours and may reflect on how they might think differently, how they make choices and the relationship between freedom and responsibility.

ETHICAL BEHAVIOUR
People who have weathered adversity in real, historical circumstances provide inspiration. “History teaching by example” is one phrase that describes this use of a study of the past—a study not only of certifiable heroes, the great men and women of history who successfully worked through moral dilemmas, but also of more ordinary people who provide lessons in courage, diligence, or constructive protest. They are encouraged to discuss, reflect and analyse in the process of exploring the relationship between opinion and thinking and truth.

Factors of the Approach which influence Assessment
The holistic orientation means that the educational goals include cognitive, socio-emotional and moral elements which are integrated into the subject areas, and designed to meet the developmental needs of the students. When making decisions on what knowledge, understanding and skills should be assessed, and how, it is necessary, from a Steiner perspective, to ensure that the strategies support goal achievement. In particular the Steiner approach is concerned to ensure that assessment methods are aligned with the Melbourne Goals.

Significant differences in regard to the Steiner History curriculum in Stage 4 include:

- Different sequencing of topics
- The study of Ancient history

Rationale: As Modern History has been studied in Class 9, students return to Ancient history in Class 10. It is considered developmentally sound for them to explore the deep roots of their ancient past and to weave backwards and forwards between the past and the present; between imaginative dreaming into the stories of this far distant period and rigorous intellectual reasoning in relation to the geographical, political and economic forces that influenced the development of these early cultures.

The ASCF History Curriculum is convergent at the end of Year 10.
WHERE TOPICS FOLLOW A DIFFERENT SEQUENCE

The Australian and Steiner Curricula are in alignment at the end of Stage 4 in History in most areas. The main difference, apparent in the category of Historical Knowledge and Understanding, relates to curriculum topic choice. Many of the topic choices are strongly supported by both tradition and research relating to developmental indications. The Steiner curriculum is an internationally based one and there is some level of accordance between curricula in different countries.

The table below identifies the related convergences between the Australian and Steiner curricula and highlights areas where there are variations in emphasis and interpretation.

End of Stage 4: Classes 9 and 10

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<tbody>
<tr>
<td>CLASS 10</td>
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<tr>
<td>HISTORICAL KNOWLEDGE and UNDERSTANDING</td>
</tr>
<tr>
<td>Australian curriculum</td>
</tr>
<tr>
<td>The Modern World and Australia</td>
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</table>

Explanation:
As Modern History has been studied in Class 9, students return to Ancient history in Class 10. It is considered developmentally sound for them to explore the deep roots of the ancient past and to weave backwards and forwards between the past and the present; between imaginative dreaming into the stories of this far distant period and rigorous intellectual reasoning in relation to the geographical, political and economic forces that influenced the development of these early cultures.

DEPTH STUDIES AND ELECTIVES

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Explanation:
As above.

Rationale for 10.1 Ancient Cultures:

This unit focuses on the people who ushered in the dawn of major western and non-western ancient civilisations. Defining the approach to historical studies in class 10 is the question now arising in the young person, “How did things come to be as they now are?” Connections are established with knowledge and understandings developed in earlier studies of Ancient History, particularly that of Ancient India, Persia, Egypt-Chaldea and Greece, undertaken in Class 5. Where these earlier experiences were built through image, story and biography Class 10 requires the students to use and evaluate primary and secondary sources, examine archaeology. Students develop high levels of critical thinking by considering why civilisations developed where and when they did, why they prospered and why they declined. The environment is of special significance in the development of the human story. The unit includes study of ‘the immigrations of the nations and their dependence on the territories of the earth’ (Ref. Rudolf Steiner Lecture: ‘The Peoples of the Earth’). Students examine interactions among various cultures, emphasise their enduring contributions and the link between contemporary and ancient worlds. The students’ thinking has become increasingly abstract and multidimensional. They are now able to engage in comparative analysis and will in this unit consider interrelationships of different aspects of the world and multiple cultures.