

# CSCNEPA

## Aligning curriculum with the goals of schooling

This stimulus paper was prepared by Peter Cole for the Curriculum Standing Committee of National Educational Professional Associations (CSCNEPA) in October 2008.

## Developing a twenty-first century school curriculum for all Australian students

*This paper takes a fresh look at the way that curriculum in the post-compulsory years (Years 10–12) is structured and delivered in schools. Its starting point is a concern about the apparent divide between the national goals for schooling in the twenty-first century and the actual curriculum that schools are expected to deliver in the post-compulsory years. It does not address all learning that a student might choose to undertake in the post-compulsory years but focuses particularly on discipline based learning and how this might be reconceived so that all students can leave school with a broad understanding of core concepts and big ideas in the key discipline areas. It advocates alternative ways of packaging and delivering post-compulsory curriculum to those generally adopted in Australian jurisdictions and proposed in the national curriculum project, and where available references arrangements in jurisdictions nationally and internationally that illustrate the proposed alternative practice.*

## 1. Preamble

- 1.1 This stimulus paper provides a contribution to the current debate around the development and structure of a national curriculum. It arises from the work undertaken for CSCNEPA<sup>1</sup> and the deliberations of the Curriculum Standing Committee during 2007 and 2008 and builds on the Australian Curriculum Studies Association's (ACSA) *A Guide to Productive National Curriculum Work for the Twenty First Century*<sup>2</sup> and CSCNEPA's August 2007 working paper 'Productive National Curriculum Work'.
- 1.2 In its current form it is neither a formal nor endorsed statement but a stimulus paper that is being circulated as a contribution to the thinking about how national approaches to curriculum work can best contribute to the learning outcomes of young people. It is intended to provide a stimulus for continued thinking and sharing of perspectives about what a twenty-first century curriculum should achieve for all Australian students and how we can achieve it. It seeks to explore ways to produce a better alignment between the goals of schooling and the curriculum.
- 1.3 It takes as given that a curriculum for the twenty-first century should enable all students to gain an understanding of the factors that shape societies' economic, social and belief systems and to develop the personal qualities and skills required for them to be informed and responsible participants in a society that is becoming increasingly global in nature and diverse in composition and outlook.
- 1.4 The stimulus paper suggests that to be consistent with the statements of the national goals of schooling the curriculum should inter alia provide students in and beyond the compulsory years with opportunities to:
  - ▶ appreciate that political, economic and religious theories and beliefs are key shapers of our world and understand how differences in these domains play out in a society in terms of values, social behaviour and civic institutions
  - ▶ be confident producers and consumers of the arts
  - ▶ understand scientific and mathematical concepts and be assisted in other ways to make sense of their world
  - ▶ address complex 'authentic' problems that require in-depth consideration and the synthesis of information from a number of different disciplinary perspectives
  - ▶ understand and appreciate other cultures and particularly Asian cultures
  - ▶ experience learning that builds 'responsible citizenship' and develops their community spirit
  - ▶ develop and reflect on their personal and interpersonal development.
- 1.5 The paper identifies and challenges some of the key assumptions about the learning that is achieved in the compulsory years and about the way that senior secondary curriculum is developed, packaged and delivered in schools. It suggests that current practices may impede the achievement of the learning envisioned in national goals of schooling statement and proposes new ways to develop, package and deliver the curriculum that will produce a greater alignment between schooling practices and the national goals of schooling.

1 The Curriculum Standing Committee of National Education Professional Associations (CSCNEPA) is made up of representatives of the nation's peak educational professional associations.

2 Australian Curriculum Studies Association, 2006, 'A Guide to Productive National Curriculum Work for the Twenty First Century', in *Curriculum Perspectives*, vol. 26, no. 4, p. 5.

## 2. The global context

2.1 A twenty-first century curriculum must take into account where Australia and its citizens are located, geographically and in other ways, within a global context. Commentators on society suggest that the world that is ahead for school leavers will have the following features.

- ▶ Globalisation of economies — economic power will be centred more on China and India.
- ▶ Reliance on international markets — entrepreneurs and workers will need to have a global outlook and international competence.
- ▶ Likely environmental degradation due to such factors as water and energy shortages, global warming, and pandemics (e.g. AIDS and Avian Flu) — global problems will require international cooperation for global solutions, citizens with a sound knowledge of local and world-wide environmental issues, and a willingness to change societal habits in the interests of global sustainability.
- ▶ Insecurity of nations — citizens will need to be able to engage with national and international issues of security, understand the need to build alliances, and understand the factors that generate conflict and mistrust between nations.
- ▶ Internationalisation of employment — accelerated international migration, increased opportunities for working overseas and a greater use of multinational work teams will require citizens with heightened cultural awareness, second language skills and sophisticated interpersonal skills.
- ▶ A knowledge economy will be the generator of most wealth and jobs — citizens will be needed with the capacity to identify problems, to work in multidisciplinary teams to identify solutions, to manage complex and multidimensional tasks, to synthesise ideas, and to communicate effectively.

2.2 These features point to the kinds of knowledge, skills and attitudes that the curriculum should assist young people to develop.

## 3. Purposes of a twenty-first century curriculum

3.1 Within the Australian context, the broad overarching purposes of a twenty-first century curriculum should be to strengthen civil society and participative democracy, to promote individual development and social cohesion, to develop economic prosperity and environmental sustainability and to prepare students for active global citizenship. These national purposes underpin an understanding of the role that education needs to play in ensuring that all young Australians are prepared for life in the twenty-first century.

3.2 A curriculum for the twenty-first century therefore should enable all students to gain an understanding of the factors that shape societies' economic, social and belief systems and to develop the personal qualities and skills required for them to be informed and responsible participants in a society that is becoming increasingly global in nature and diverse in composition and outlook.

3.3 However, the success of a twenty-first century curriculum will be dependent on what is experienced by young people in and out of classrooms — the result of an engaging, high quality teaching–learning process — and on the extent to which it contributes to equity and social justice, and promotes engagement, achievement and excellence. That is, consideration of a twenty-first century curriculum and any national approach to curriculum needs to go beyond content and skills. Student learning is dependent upon motivation and engagement. Curriculum statements will need to be flexible and responsive to diversity and designed so that teachers can tailor learning experiences to the interests and needs of students.

#### **4. Current schooling arrangements**

4.1 In CSCNEPA's August 2007 working paper it was observed that by the completion of the compulsory years all students ideally should have acquired the understanding that helps to explain society, that gives them a sense of humanity's achievements and failures and a sense of their place in history, that gives them an appreciation of the arts and an understanding of other peoples and cultures and a general overview of how our world functions.

4.2 In the compulsory years the curriculum is structured to provide students with the tools for learning, with a breadth of learning experiences and with a general understanding of core concepts and ideas in key discipline areas. Schooling in the compulsory years is also concerned with developing personal attributes, skills and values and with expanding young people's horizons and aspirations. Moreover, in the compulsory years the curriculum needs to expose students to the kinds of learning that will prepare them to succeed in the workplace, help them become well-informed and thoughtful citizens, and enable them to participate in a broad spectrum of human cultural activities.

4.3 By the senior secondary years the curriculum undertaken by students is diverse, the stakes and learning demands are high and the assessment is content-specific and often competitive. There is limited scope for other kinds of learning to be promoted. Whilst some systems are introducing certification rules that require students to include a community or work-based experience in their senior course of study, such initiatives will not compensate for a curriculum in the compulsory years that has failed to enable students to gain an understanding of the factors that shape societies' economic, social and belief systems and to develop the personal qualities and skills required for them to be informed and responsible participants in a society that is becoming increasingly global in nature and diverse in composition and outlook.

4.4 This paper contends that the sophistication of understanding required to enable young people to 'gain an understanding of society' is such that it is unrealistic to assume that the kinds of learning envisioned by the national goals of schooling could be achieved by the end of the compulsory years. Many young people of 15 years of age will simply not have the capacity, interest or maturity to 'develop the personal qualities and skills required for them to be informed and responsible participants in a society that is becoming increasingly global in nature and diverse in composition and outlook'. Consequently the curriculum arrangements in the senior years need to be looked at afresh and changes need to be introduced that result in the curriculum in the later years of schooling being designed and delivered in ways that contribute substantially to the achievement of the national goals of schooling.

## **5. Assumptions about current curriculum arrangements**

- 5.1 When one analyses senior secondary curriculum arrangements several unstated assumptions about the way that senior secondary curriculum is developed, packaged and delivered in schools are revealed. For instance, it is generally assumed that:
- ▶ the best way to cater for different abilities and interests is for curriculum authorities to develop an extensive subject choice and leave it up to schools to determine what subjects they will offer
  - ▶ all the essential learning that students should experience in common is completed by the age of 15 and prior to the senior years of schooling
  - ▶ school settings provide students with senior subject choices that enable a balanced and coherent senior course of study to be pursued
  - ▶ the senior years are best used to promote learning in a diverse range of curriculum specialisations
  - ▶ the current range of subjects and certification rules support the achievement of the nation's goals of schooling.
- 5.2 This paper examines these assumptions and concludes that they are problematic and more importantly that they are an impediment to schools aligning their curriculum with national schooling goals.

## **6. Observations about the way the curriculum is designed and delivered**

- 6.1 Australian states and territories have between 50 to 200 or more senior secondary subjects from which students can theoretically choose to construct their preferred senior course of study. However the vast majority of the available subjects never appear on most school's timetables as schools can only offer a relatively small subset of the available subjects and courses. The particular subset chosen at an individual school level and how it is timetabled is influenced by teacher availability, facilities, the size of the student cohort and student choice. Student choice in turn can be influenced by past performance, aspirations, timetabling arrangements, certification requirements, tertiary course prerequisites and knowledge of tertiary entrance score scaling arrangements. Student choice also enables areas where students have weaknesses or big gaps in their knowledge and understanding to be avoided, regardless of the relative importance of the missing areas of knowledge. The outcome of these current senior curriculum arrangements is that the opportunity to introduce or consolidate common essential learning has been foregone in the senior years.
- 6.2 Current schooling arrangements assume that all students by the end of the middle years will have developed relatively sophisticated understandings about their society and the broader world. However, the middle years' curriculum generally is not structured to explicitly ensure that essential understandings are developed, and it is also questionable whether most adolescent students are ready to take on board, other than in a relatively superficial way, learning which is vital for them to become active and informed citizens (e.g. learning about economic, political and belief systems, international affairs, other cultures and global concerns).

- 6.3 If essential understandings have not been developed by the end of the middle years, there is little likelihood that they will be formally developed in the senior secondary years. This is because the current senior secondary curriculum arrangements result in students embarking on a ‘personalised’ and generally specialised program of five or six studies so those studies that are best suited to imparting ‘essential understandings’ (e.g. studies of literature, politics, science, economics, history, international affairs and the arts) are only undertaken by a minority of students. In addition, the way current senior subjects are structured as separate ‘disciplines’ or ‘learning areas’ produces a broad range of available studies that jostle for the students’ attention and make the task of building a fairly comprehensive and balanced learning ‘package’ extremely difficult for students.
- 6.4 The way senior secondary curriculum is developed, packaged and delivered needs to be reconceptualised to ensure that programs in the senior years are not structured in ways that undercut opportunities for the further development of knowledge, skills and attitudes necessary to achieve the goals of schooling as outlined in various government documents.
- 6.5 Impediments to curriculum in the senior years contributing in a substantial way to the achievement of the outcomes sought by the national goals of schooling include not only the smorgasbord and choice model for determining a study program undertaken, the structure and design of subjects and the requirements for certification but also what, how and when senior learning experiences are provided.
- 6.6 One way to promote common learning of essential knowledge and skills in the senior years is to require students to undertake some common studies and to experience studies that cover several broad areas of learning. At a minimum this would require all students to undertake one or more subjects in common<sup>3</sup> or it could require students to select studies from several broad discipline categories<sup>4</sup>.
- 6.7 However, even within a broad common structure model it may be necessary to re-conceive the way subjects are packaged to ensure that fewer subjects are on offer and those that are available are specifically constructed to assist students to acquire essential learning. As students may only have time to undertake between five and seven subjects, some of the subjects on offer may need to be ‘hybrid’ subjects such as ‘politics, law and the economy’ or ‘events that shaped our world’ to complement history, economics, legal studies and politics subjects or more radically to replace the teaching of these ‘disciplines’ as separate subjects within a school context. The dilemma being addressed here is that the more discrete subjects there are the less likely they are to be experienced by students.

- 3 The new senior curriculum in Hong Kong requires students to study four core subjects: Chinese language, English language, Mathematics, and Liberal studies for 45–55% of the time.
- 4 The International Baccalaureate Diploma (IBD) structure requires students to select one subject from each of six subject groups — namely, language; second language; individuals and societies; experimental sciences; mathematics and computer science; and the arts. A less demanding model could be based on four subject groups — for example, maths/science, English/humanities, languages/cultural studies and the arts/applied studies. The Welsh Baccalaureate also has a core and option structure with the core consisting of four components — Key skills; Wales, Europe and the world; Work-related education; and Personal and social education.

- 5 Examples of 'inter-disciplinary' or 'cross-disciplinary' studies include the International Baccalaureate Diploma (IBD) interdisciplinary Theory-of-knowledge subject, the ACT's cross-discipline Cultural Studies Framework and the Ontario interdisciplinary studies courses. The Singapore A level curriculum includes a multi-disciplinary subject, Knowledge and Inquiry, that incorporates a research paper that is to be worked on for six months.
- 6 The IBD seeks to develop young people who are outward looking, aware of other cultures and have ability with a second language.
- 7 Students in Ontario are required to participate in 40 hours of community involvement before they graduate.
- 8 In Hong Kong schools, personal learning will be addressed by making liberal studies a core element of the senior curriculum.

6.8 In addition, discussions about the kind of curriculum that is needed to prepare young people to become 'informed and responsible participants in society' suggest that new learning experiences and activities need to be incorporated into a students' senior schooling experience. We need to develop 'inter-disciplinary' or 'cross-disciplinary' studies featuring complex 'authentic' problems that require in-depth consideration and the synthesis of information from a number of different disciplinary perspectives<sup>5</sup>. We need to develop studies and experiences that assist students to become more knowledgeable about other cultures and particularly about Asian cultures<sup>6</sup>. We need to promote and recognise learning that builds 'responsible citizenship' and develops young people's community spirit<sup>7</sup>. We also need to extend learning designed to promote personal and interpersonal development and meta-cognition into the senior years of schooling<sup>8</sup>.

## 7. Implications for the design of senior years curriculum

- 7.1 The requirements for senior secondary certification largely determine what, when and how learning is experienced by students in their final two or three years of schooling. This paper contends that the curriculum provided in the senior years of schooling must contribute to students achieving the outcomes envisioned in the national goals of schooling statement. To do this the curriculum in the senior years needs a significant overhaul, not only in terms of subject design but also in terms of certification requirements.
- 7.2 Changes to the structure (e.g. unitising subjects and courses, the development of applied learning subjects and cross credit arrangements) and requirements for gaining a senior secondary qualification are increasing the possibility that the vast majority of students will successfully complete a secondary qualification. This is a positive development. But in the drive for greater completion rates, discussion about what important understandings a senior years' curriculum should provide students with has been unduly narrowed. A fundamental question that needs to be asked is whether the majority of students in their last two or three years of schooling could be provided with a richer and more appropriate range of learning experiences than they are currently.
- 7.3 It is contended that current senior years curriculum arrangements need to be significantly improved and that alternatives to the way that senior curriculum is designed, packaged and delivered need to be explored. We need to develop a senior years' curriculum model that has greater commonality and coherence, requires students to undertake studies in several broad discipline categories, requires the completion of a community project and a substantial interdisciplinary research project, is global in outlook and is taken over two or three years. It is also contended that subjects should be designed for delivery over two years as a two year structure enables students to undertake learning of some depth in each area of study, regardless of whether they are entering the study for the first time or already have a sound foundation that can be built upon.

- 7.4 Whilst the opportunity to pursue high level learning in all areas would need to be provided, subjects that enabled students to understand key concepts and big ideas derived from a discipline would also need to be available. For example, one of the science subjects could be a study of the history and philosophy of science, and one of the maths subjects could be an understanding of key concepts and big maths ideas.
- 7.5 The starting point for the actual subject design would be asking what are the most useful studies and activities we can get students to engage with so that they become knowledgeable about the richness and complexity of contemporary society and how it has evolved. The goal to be achieved is to have all students leave school with the knowledge and skills deemed essential for them to be informed and productive citizens.
- 7.6 In making these suggestions it is recognised that any ‘revised’ curriculum model will need to incorporate design elements that enable students with diverse interests and abilities to engage with and experience success in their learning.
- 7.7 For example, as the breadth requirements must not be so onerous as to create a deterrent to participation, it is suggested that the common elements be confined to four broad areas, and that subjects be developed within a framework of differing degrees of difficulty thereby allowing students to engage in a major or minor study of a broad learning area and to undertake their studies at a basic/introductory, intermediate and higher/advanced level<sup>9</sup>. It is also suggested that the common elements of the senior years’ curriculum occupy no more than 50–60% of the student’s time over the two year period of study, thereby leaving time for student some selected studies and the completion of other ‘non-discipline based’ learning and activities.

9 The Singapore curriculum emphasises breadth of learning and flexibility and subjects are pitched at three levels of study — H1, H2 and H3. H1 is ‘half of H2 in breadth but similar to H2 in depth’ and H3 offers opportunity for extension (e.g. advanced content, research paper, university module) from H2 subjects. Core and option subjects in the Welsh Baccalaureate are offered at foundation, intermediate and advanced levels.

## 8. Implications for the delivery of senior years curriculum

- 8.1 The point at which the pursuit of common studies or common study categories should give way to the pursuit of ‘personalised’ subject specialisation is a vexed issue. To maintain motivation and sustain interest, the curriculum in the senior years needs sufficient flexibility to enable students to continue studying in areas where they have a particular interest and to avoid areas where they have experienced several years of failure.
- 8.2 It is now fairly standard practice for nearly all students to have a common core of studies up to Year 10 and for differences in ability and interest at this stage to be responded to by modifying in-class requirements and offering a choice of electives. In Years 11 and 12 the common studies element is usually reduced to one subject (or none in some jurisdictions) and concern for ‘breadth’ is met by a requirement to select at least one study from two category areas or there are no ‘breadth’ requirements. Student choice (tempered by counselling, pre-requisites, certification rules and timetable constraints) largely determines the subjects within a student’s program and provided the school can accommodate the necessary range of subjects, specialisation within a ‘pathways’ area is possible and encouraged.

10 The European Baccalaureate (EB) is a two year senior years' course in which students study some common subjects for two-thirds of the week and electives for the rest of the time. The common studies in the EB are Mathematics, English, History, a Second language, Science, Geography, Ethics and religion, and Physical Education.

- 8.3 A two year senior course based on student choice is typically adopted by jurisdictions as Year 11 is seen as the best point in schooling for a student to start to specialise. Certainly by this stage of their schooling students' interests and capabilities in subjects have become fairly apparent. However, as the discussion above indicates, there are always positives and negatives associated with the schooling level at which arrangements that promote study breadth are replaced by arrangements that support study specialisation. And a further complication that needs to be faced when proposing changes to the curriculum in the senior years is the inevitable link between results in final year exams and post-school opportunities for study and work.
- 8.4 Several jurisdictions that have adopted a common core and modified elective model in the senior years have done so at Years 11 and 12<sup>10</sup> and have established procedures to enable student learning to be assessed and considered within the processes used to determine tertiary selection. Such a model could also be adopted as part of a revised national curriculum.
- 8.5 Another delivery model that warrants consideration is one based on the final three years of schooling. By adopting a three year perspective various components of the curriculum proposed herein could be commenced in Year 10, which could help to motivate students as their efforts would be contributing to the earning of a senior certificate, and be developed over the following two years.
- 8.6 Alternatively, Years 10 and 11 could be made the focus for a two year common course along the lines described above and Year 12 could remain a specialist year in which the curriculum undertaken was largely determined through student choice. The benefits of this alternative are that it enables schools to maintain a common curriculum focus through to Year 11 when students are becoming more mature learners and it invests greater weight to the studies undertaken at Year 10 as they are part of a senior course. As it enables senior years' activities designed to equip students for a productive personal and civic life to be commenced in Year 10, and it increases the possibility that essential understandings will be grasped by students prior to them specialising in Year 12.

## 9. Conclusion

- 9.1 This stimulus paper calls for national approaches to curriculum work which explore issues associated with the structure and delivery of the senior years curriculum and which act as a catalyst for establishing curriculum arrangements in the senior years that result in students' knowledge, skills and attitudes being strongly aligned with the outcomes sought in the national goals of schooling.
- 9.2 It contends that the discussion of (national) curriculum should extend beyond which subjects should be available and what their content should be, to include and give precedence to considerations of the understandings that all young people should have by the time they leave school and what arrangements need to be in place, particularly for the later years of schooling, to ensure these understandings are gained by all students.

- 9.3 It also suggests that although the disjunction may be reducing between what students learn in school and what the various statements about the goals of schooling say they should learn, there remains a concern that it is unrealistic to assume that the broad goals of schooling can be achieved by the age of 15 or by the end of Year 10. And if they aren't achieved by the age of 15, they are unlikely to be achieved by the end of schooling as the curriculum in the senior years is not structured in a way to allow this to happen.
- 9.4 The over-riding message of the paper is that if we are serious about achieving the various goals of schooling, we will need to re-think the way curriculum is packaged and delivered, especially in the senior years and in particular look at models that result in 'planned' commonality in the later years of schooling.
- 9.5 Finally, the paper has advanced several 'alternative' curriculum design, packaging and delivery approaches that could contribute to improving the current curriculum arrangements typically adopted in the senior years. The approaches advanced for consideration include:
- ▶ the development of interdisciplinary studies and 'hybrid' subjects as part of the senior secondary subject range
  - ▶ the development of curriculum and activities that promote a global awareness
  - ▶ the inclusion of community and service learning experiences
  - ▶ the inclusion of personal and social learning experiences
  - ▶ the inclusion of an extended project or essay requirement
  - ▶ the adoption of some studies for breadth requirements and common activities requirements for all or part of the course
  - ▶ designing subjects and activities to be taken over two years
  - ▶ varying the rigour of subjects (e.g. by adopting three levels of difficulty and/or varying the content coverage and time devoted to a study)
  - ▶ designing content and experiences that assist students to understand the 'big ideas' and key concepts of a subject
  - ▶ making Years 10–11 the focus for breadth requirements, and Year 12 the year for specialisation. ■

# Membership and purpose of the Curriculum Standing Committee of National Education Professional Associations (CSCNEPA)

In 2007 the membership included Chairs and Directors of the following organisations:

- ▶ Australian Curriculum Studies Association
- ▶ Australian Primary Principals Association
- ▶ Australian Secondary Principals Association
- ▶ Association of Heads of Independent Schools of Australia
- ▶ Catholic Secondary Principals Australia
- ▶ Principals Australia
- ▶ Australian Council for Educational Leaders
- ▶ Australian College of Educators
- ▶ Australian Education Union
- ▶ Australian Independent Education Union
- ▶ Australian Council of Deans of Education
- ▶ Australian Joint Council of Professional Teaching Associations
- ▶ Australian Association for Research in Education
- ▶ National Education Forum

In 2008, and in the context of the work of the National Curriculum Board, the membership was expanded to include:

- ▶ Australian Literacy Educators Association
- ▶ Australian Association of Mathematics Teachers
- ▶ Australian Science Teachers Association
- ▶ Australian Association for the Teaching of English
- ▶ e:lit
- ▶ History Teachers Association of Australia

## The purposes of CSCNEPA are:

1. To identify and articulate the curriculum challenges for educating young people for the twenty-first century.
2. To shape and influence the development of a national collaborative approach to curriculum.
3. To provide considered and timely contributions and responses to policy proposals and directions in curriculum that are of significance to Australia.
4. To contribute to, and promote, constructive and informed curriculum debate in Australia.