ACER NEWSLETTER

No. 82 March 1995 ISSN 1038-4103

Subject Choice in Years 11 and 12

Subjects studied in the senior secondary years have a major influence upon the educational and career options available to young people when they leave school. Since students exercise considerable choice in the subjects which they study over those years, information about subject choice makes an important contribution to understanding education systems. A recent report by ACER titled *Subject Choice in Years 11 and 12* provides invaluable national information about this issue. Its authors were John Ainley, Lyn Robinson, Adrian Harvey-Beavis, Gerald Elsworth (from Melbourne University) and Marianne Fleming. The report:

- describes patterns of subject enrolments in the final two years of secondary school;
- analyses the relationship of those subject enrolments with a range of personal, social and school characteristics;
- examines the combinations of subjects which students include in their programs and
- comments on changes in recent years by making comparisons with a similar study in 1990.

The *Study of Subject Choice* was commissioned by DEET as one of the sample studies for the 1993 *National Report on Schooling in Australia*. It was based on a national survey of approximately 20 000 students in Years 11 and 12 as well as longitudinal data from the *Youth in Transition* project and official enrolment statistics from State certification boards.

Trends

From 1990 to 1993 there were a number of changes in the patterns of subject choice by students:

- a decrease in the proportion of enrolments in *Studies of Society and Environment*, including a decline in enrolment levels in humanities such as geography and history and economics;
- an increase in the proportion of enrolments in *Technology*, which was evident in computing studies and technical studies; and
- small increases in the *Arts*, and in physical education.

There was little change in overall enrolment in languages but an increase in enrolment in Asian languages and a decrease in European languages. A small decline in physical science enrolments was matched by a small increase in biological and other sciences (notably in psychology). There were also changes in the combinations of subjects studied:

- a decline of nearly seven percentage points in the proportion of students who studied two subjects (other than English) from the humanities and social sciences;
- a small decline of two percentage points in the proportion of students who studied two sciences (usually physics and chemistry) and advanced mathematics;
- an increase in the percentage of students studying two or more technology subjects; and
- an increase of five percentage points (from 25 to 30) in students who followed a mixed course with no specialisation.

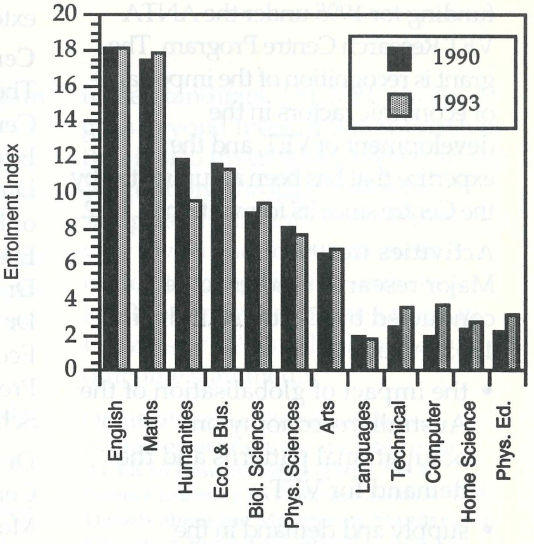
Patterns

Subject choices were influenced by a number of aspects of the educational and social background of students. Among the most important were earlier school achievement, gender and students' state of residence.

- Earlier school achievement was strongly associated with enrolments in particular subject areas, especially physical sciences.
- Gender accounted for considerable variation in subject area enrolments: males predominated in physical sciences, mathematics, and technical studies and females predominated in Languages Other Than English (LOTE) home economics and biological and other sciences.
- State differences were especially evident in humanities and social sciences, mathematics, and English.

Other patterns of association with subject area enrolments were also evident. Students from a non-English speaking background were more likely to enrol in the physical

continued on page 2



Enrolment Levels in Subject Areas: 1990 and 1993

continued from front page

sciences, mathematics, and LOTE. Aboriginal and Torres Strait Islander students had low enrolments in the physical sciences, mathematics and languages other than English. Independent (non-Catholic) schools had relatively high enrolments in the humanities and social sciences, LOTE, and also the physical sciences. Higher socioeconomic status was associated with higher enrolment levels in the physical sciences, humanities and social sciences.

Choosing Subjects

Students identified both intrinsic (interest, enjoyment) and extrinsic (future work, study) reasons as factors in choosing their subjects. Reasons given for choosing a subject depended on the subject being considered, and differed between males and females. Females tended to nominate intrinsic reasons more than males, whereas males tended to nominate extrinsic reasons more frequently. For subject areas such as arts, physical education, technical studies, languages, humanities and biological and other sciences, enjoyment or interest were the most frequently mentioned 'main' reasons for choosing a subject. For subject areas such as physical science, mathematics, economics and business and computing studies, relevance to work or further study were the most frequently mentioned reasons for choosing a subject.

The Future

It is important that subject choice patterns be monitored through an established set of indicators which provide information about enrolment levels in Key Learning Areas and subject areas as well as participation rates in different subject combinations. The study of subject choice established that there are differences between groups of students in their patterns of subject choice and that the differences were consistent with findings from 1990 and similar to those reported in other research. Mapping the differences among students may be as important for educational policy and practice as monitoring trends over time.

The report is available from Customer Service at ACER, or from the Australian Government Publishing Service.

NEW RESEARCH PROGRAM ON VOCATIONAL EDUCATION AND TRAINING

ACER has recently shared in a substantial research grant by the National Research Advisory Council of the Australian National Training Authority (ANTA). This grant will extend ACER's involvement in research and development relating to vocational education and training (VET).

The Monash University-ACER Centre for the Economics of Education and Training has been awarded $300 000 for 1995 to conduct a program of research, research training and dissemination on the economic impact of VET. The Centre was the only organisation to receive funding for 1995 under the ANTA VET Research Centre Program. The grant is recognition of the importance of economic factors in the development of VET, and the expertise that has been accumulated by the Centre since its foundation in 1992.

Activities in 1995

Major research studies to be conducted by Centre staff during 1995 include:

- the impact of globalisation of the Australian economy on occupational patterns and the demand for VET;
- supply and demand in the professions and skilled occupations;
- relationships between education, training, work organisation and productive outcomes in the health industry;
- national trends in VET provision;
- analysis of training arrangements in enterprise agreements;
- provision of VET in the adult, community and further education sector;
- the impact of economic studies of VET on policy and practice; and
- the data needs of researchers in the VET field.

As well as conducting research studies, the Centre will hold seminars and research training workshops, and extend its publishing in the VET field.

Centre Staff

The Monash University-ACER Centre for the Economics of Education and Training has four Directors: Dr Gerald Burke (Faculty of Education, Monash) who is Executive Director of the Centre; Dr Phillip McKenzie (ACER); Dr Leo Maglen (Department of Economics, Monash); and Professor Chris Selby Smith (Graduate School of Management, Monash).

Dr Julian Teicher (National Key Centre in Industrial Relations, Monash University) is an Associate of the Centre. The Centre has three Research Fellows: Ms Fran Ferrier; Ms Aija Grauze; and Mr Chandra Shah. Mrs Val Newson manages the Centre's office, based at the Clayton campus of Monash University.

Recent Publications

The Centre has produced two recent publications on the economics of VET in Australia:

Burke, G., McKenzie, P., Maglen, L., Selby Smith, C., Ferrier, F. & Selby Smith, J. (1994). *The economics of vocational education and training in Australia: A review of recent literature*. Brisbane: Australian National Training Authority.

Ferrier, F., Burke, G., McKenzie, P., Selby Smith, C., Selby Smith, J. & Anderson, D. (1994). *Past imperfect: future imperative. A guide to recent Australian literature on the economics of vocational education and training*. Brisbane: Australian National Training Authority.

These are available free from ANTA, GPO Box 3120, Brisbane QLD 4001.

Further Details

Further information on the Centre's work can be obtained from:

Monash University-ACER Centre for the Economics of Education and Training
School of Graduate Studies
Faculty of Education
Monash University
Clayton VIC 3168
Phone: (03) 905 2808/2865
Fax: (03) 905 2779
or from Dr Phillip McKenzie at ACER
Phone: (03) 277 5585
Fax: (03) 277 5500.

Australian Language Certificates gain in popularity

In 1994, 56 700 students took part in the *Australian Language Certificates* (ALC), a 41.4% increase on the number of participants in 1993. The ALC project began as a pilot study of 8200 students in 1990. The certificates aim to acknowledge individual success in learning a Language Other Than English (LOTE), and to raise the profile of languages in schools.

The introduction, in 1994, of Intermediate Level in German, Italian, and Japanese attracted more students. The Beginners' level, which has been in place for five years, had an 11 per cent increase. The majority of students came from New South Wales and Victoria. The proportion of students from Victoria decreased in 1994, while the proportion from NSW and South Australia has increased slightly.

The increase in participation across languages was far from uniform, as shown in Figure 1. French and Japanese, which between them account for 58 per cent of registrations, continue to grow at a steady pace. The largest growth was recorded by French at Intermediate level which almost doubled the number of participants. Indonesian and Chinese also had significant increases.

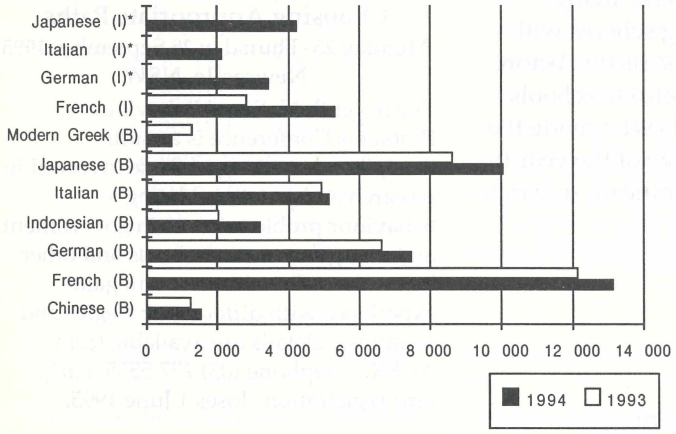


Figure 1: Number of students registered in each language at Beginners' (B) and Intermediate (I) level in 1993 and 1994 in Australia and New Zealand

** Intermediate Level introduced in 1994.*

The increase in student registrations came from a larger number of participating schools, as illustrated in Figure 2. In 1994, 965 schools participated, which is a 24 per cent increase on the 780 schools that took part in 1993. In NSW there was 56 per cent growth in the number of students and 34 per cent increase in the number of schools, while in Queensland 29 per cent more schools and 53 per cent more students registered. Though there was only a 3 per cent increase in the number of Victorian schools taking part in 1994, the increase in participants was 23 per cent. These increases reflect, in part, the popularity of the newly introduced Intermediate level. Beginners' level students have had between 80 and 200 hours of language instruction. Intermediate Level students have had between 200 and 300 hours of language instruction.

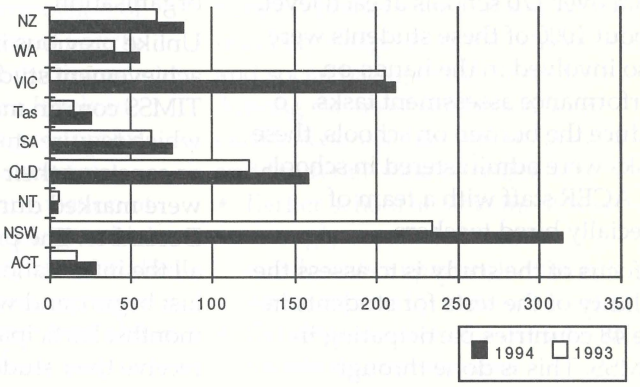


Figure 2 : Number of schools participating in ALC in 1993 and 1994 in Australia and New Zealand

The Australian Language Certificates are funded through sponsorship and student registrations. The project was initiated and is funded principally by the Australian Multicultural Foundation. Other sponsors include The Mazda Foundation, CO•AS•IT• Italian Assistance Association, The National Languages and Literacy Institute of Australia, the Australia-Indonesia Institute and the Australia-China Council. The Australian Council for Educational Research administers the certificates with assistance from The University of Melbourne.

Information about the ALC was mailed to schools in late February, and additional material was sent out in mid March. The closing date for registration is 28 April. For more information contact Dr Susan Zammit or Mrs Patricia Firth at ACER on (03) 277 5615.

Western Australian Monitoring Standards in Education - Science

The Education Department of Western Australia has recently published a report of the Monitoring Standards in Education (MSE) Project, *Profiles of Student Achievement: Science in Western Australian Government Schools.*

Many of the MSE test items were originally developed by ACER for the Victorian Science Achievement Study. ACER organised the sample design, conducted the data analysis and assisted with the interpretation of results.

The MSE program monitors achievement in the school curriculum. In 1993 the MSE program assessed Year 3, 7 and 10 students' understanding of scientific concepts and their investigative skill in science.

The tasks explore the kinds of conceptions students have of various scientific phenomena and investigate the prevalence of those conceptions in the student population. Tasks require students to explain their understandings in their own words.

The results of the MSE study are consistent with international findings: for the scientific principles and phenomena addressed in the study, students hold a range of understandings. The MSE study goes beyond most of this research in that it also investigates these varying conceptions through statewide samples of students at three different year levels and interprets these understandings in line with the levels of achievement described in the Western Australian student outcome statements.

Details about the Victorian Science Achievement Study are available from ACER in *Research Monograph No. 41, Science Learning in Victorian Schools: 1990.* Details about the Monitoring Standards in Education Project are available from the Education Department of WA in *Profiles of Student Achievement: Science.*

Third International Mathematics and Science Study *update*

The *Third International Mathematics and Science Study* (TIMSS) is the largest study of its kind ever undertaken. Late in 1994, more than 13 000 12- to 14-year-old students and more than 11 500 eight to 10-year-old students from across Australia completed tests and questionnaires. The students were from over 170 schools at each level. About 1000 of these students were also involved in the hands-on performance assessment tasks. To reduce the burden on schools, these tasks were administered in schools by ACER staff with a team of specially hired teachers.

A focus of the study is to assess the validity of the tests for students in the 48 countries participating in TIMSS. This is done through questionnaires completed by the students' teachers. About 400 primary school teachers and almost 1000 secondary mathematics and/or science teachers responded to the questionnaires, which were designed to find out as much as possible about the students' opportunity to learn the content and process areas assessed in the tests. Principals of most participating schools also completed questionnaires on features of school organisation.

Unlike previous international achievement studies, the tests used in TIMSS contain many questions which require students to work out or construct their answers. The tests were marked during November and December. The process of integrating all the information collected has only just begun, and will take many months. Participating schools will receive their students' results before Easter. ACER is grateful to schools, teachers and students who made the time at a difficult stage of the year to contribute to this significant research.

OECD paper on standard setting in Australian education

The Organisation for Economic Cooperation and Development commissioned the Director of ACER, Professor Barry McGaw, to prepare a paper on setting and monitoring standards in education in Australia. This is part of an international project funded by the US government. Papers from several countries are being prepared for publication in 1995.

The Australian paper reports on assessment programs in the States and Territories in the 1980s and 1990s, comments on the evidence provided by those programs about changes in standards of student performance, reviews the development of the national curriculum statements and profiles, and documents some of the work linking assessment and monitoring programs to the profiles.

Copies of the Australian paper are available from ACER. Phone (03) 277 5511.

ACER NEWSLETTER

This newsletter is published three times a year by
The Australian Council for Educational Research,
19 Prospect Hill Road, (Private Bag 55),
Camberwell, Victoria 3124 Australia.
Enquiries should be directed to the editor at this address.

Telephone: (03) 277 5555
Facsimile: (03) 277 5500
After 8 May 1995: *Telephone:* *(03) 9277 5555*
Facsimile: *(03) 9277 5500*

ACN 004 398 145

CONFERENCES AND WORKSHOPS

Myers-Briggs Type Indicator

1995 Accreditation Programs
1. Aug. 28-30; Sept. 11-12
2. Oct. 23-25; Nov. 13-14
Information and Bookings from:
Peter Geyer, Ph/Fax: (03) 482 1116
Glenda Hutchinson, Ph/Fax: (03) 557 2000
These programs are conducted on behalf of ACER.

Other Related Programs:
- Introduction to Type (May 17, Sept. 5)
- Personality and Careers (May 8)
- New Type Perspectives from 1995 USA Conference (APT XI) (Sept. 7)
- Type and the Workplace (Sept. 19)
- Advancing Your Knowledge of Type (Sept. 20)
- Temperament for Type Users (Sept. 21)

Contact Peter Geyer (03) 482 1116.

Behaviour Problems Conference

Student Behaviour Outcomes: Choosing Appropriate Paths
Monday 25–Thursday 28 September 1995
Newcastle, NSW

The Seventh National Behaviour Problems Conference is a multi-disciplinary meeting of those involved in research and practice relating to behaviour problem issues in government and non-government schools and other institutions. Practitioners will gain experience with different strategies and resources. Details are available from ACER. Telephone (03) 277 5555. Early bird registration closes 1 June 1995.

Parent Education Workshops

Working With Vulnerable Families
7 April 9.30am–4.00pm
Facilitator: Constance Jenkin

Group Facilitation Skills
19–21 April 9.30am–4.30pm
Facilitator: Sandra Cutts

PACE: Parenting Adolescents, A Creative Experience
28 April 9.30am–4.00pm
Facilitator: Constance Jenkin

Parenting Young Children
15, 16 & 22 May 9.30am–4.30pm
Facilitator: Sandra Cutts

Effective Discipline: A Responsive Guidance Approach for Early Childhood Services
9 June 9.30am–4.30pm
Facilitator: Jeannette Harrison

For information about Parent Education workshops, contact Ms Joanna Goldsworthy at ACER on (03) 277 5650.

ACER NEWSLETTER SUPPLEMENT March 1995

STANDARDS FROM A CURRICULUM AND ASSESSMENT PERSPECTIVE

Barry McGaw, Director of ACER

Edited text of the Director's Comment from the 1993-94 ACER Annual Report

In current discussion about performance standards for students in Australian schools, two distinct themes are emerging. One is about the adequacy of actual levels of performance and reflects considerations of accountability. The other is about what standards students should be achieving in schools and reflects, in part at least, economic pressures for skill improvement in the workplace. The first has primarily an assessment focus, the second primarily a curriculum focus. In the second, there is a growing willingness to think nationally, in the first a much stronger continuing commitment to state and territory responsibilities and rights.

ASSESSING ADEQUACY OF STUDENT ACHIEVEMENT

Public debate about the adequacy of current performance levels is often driven by claims that they are in decline. The evidence advanced is typically anecdotal and not systematic. The first national effort to document performance levels, undertaken in 1975 for a House of Representatives Select Committee on Specific Learning Difficulties, was designed to estimate the proportions of each age group performing below defined levels of minimum competence in literacy and numeracy (Keeves & Bourke, 1976). The committee concluded that significant numbers of children were failing to reach adequate levels but acknowledged that data on a single occasion could not reveal anything about changes in levels of performance (House of Representatives Select Committee, 1976). A repeat survey in 1980, commissioned by the Australian Education Council, demonstrated no decline in performance levels since the 1975 survey.

Subsequently, plans for further national surveys were abandoned in the face of substantial opposition from both teachers' organisations and education bureaucracies, on the grounds that such surveys were inevitably narrow in their scope and thus likely to distort the curriculum. Having opposed the continuation of national assessment, the Directors-General of Education then established the Australian Cooperative Assessment Program - as a collaborative program through which the States and Territories might develop and share strategies and materials, and as a shield against further national initiatives. While the program actually achieved little in the development of shared approaches to assessment (Hill, 1994), it was the agency through which significant curriculum collaboration was subsequently commenced.

The absence of national assessment does not reflect a current rejection of assessment and monitoring programs. It reflects the constitutional allocation of responsibility for education to the States and Territories. The nature and extent of system-level monitoring is in flux but Figure 1 represents the current actual or announced position.

In the past all school systems conducted syllabus-based, external examinations at the end of primary school and in the middle and at the end of secondary school. Only those at the end of secondary school remain but these provide little evidence about performance levels since results are distributed normatively, in essentially predetermined ways over the group of students presenting.

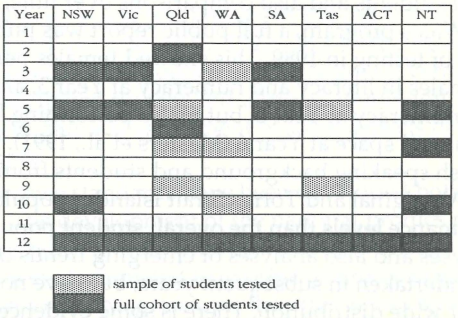


Figure 1: School years in which monitoring programs are conducted
(Adapted from Lokan and Ford, 1994)

Some systems, particularly Queensland and Victoria, have attempted to develop and use grade-related performance criteria for the allocation of grades within individual subjects. However, the dominance of the normatively used tertiary entrance score, constructed as a scaled aggregate performance for each student, means that more attention is given to this aggregate than individual subject results. Furthermore, as participation rates to the end of secondary school have risen from around 30 per cent of the age group in 1980, to almost 80 per cent in the mid-1990s, the cohort of students in Year 12 has changed dramatically. The normative allocation of scores or grades in the same fashion, within the cohort of candidates from year to year, provides no means of identifying or representing changes in performance levels over time.

Tasmania and Queensland have maintained periodic surveys of performance of students at lower levels with tests of random samples of students. Victoria introduced such surveys in 1988 and Western Australia has also introduced sample testing. In order to report on individual students' performances to parents and schools, full cohort testing was introduced in the Northern Territory at primary level in 1983 and mid-secondary in 1989. New South Wales introduced cohort testing in 1989 and South Australia will adopt the New South Wales tests from 1995. Victoria plans to introduce cohort testing at primary level in 1995, and Queensland has announced that it will add cohort testing at two year levels to its existing sample surveys. Apart from South Australia's adoption of New South Wales' tests, there is no comparability of assessments across the systems.

These system-level monitoring programs provide evidence about student performance levels over time. Tasmania established a survey cycle taking its data from the 1975 national survey as a benchmark. This series of surveys reveals, for Tasmania, no change in basic reading skills since 1975, and until the appearance of a decline in the early 1990s, no change in basic numeracy skills (e.g. Evaluation and Assessment Unit, 1993). Surveys in Victoria, providing comparisons with data from 1975 and 1980, concluded that there had been no decline in standards of performance (e.g. McGaw et al., 1989).

In 1990 Queensland tested in aspects of mathematics, reading and writing at Years 5, 7 and 9. Reading and writing were assessed again in 1992, revealing 'a slight but consistent upward shift at all three year levels in reading and writing, with the most

marked improvements being in writing at Years 5 and 7' (Review and Evaluation Directorate, 1993). Performance levels in mathematics were assessed again in 1993 and showed a slight improvement at the lower range of the scale at Year 5, no change at Year 7, and a slight improvement over the full scale at Year 9 (Quality Assurance Directorate, 1994).

These State monitoring programs typically use some items common to tests at the different year levels - to permit calibration of the tests at different year levels onto a single scale and thus to permit direct comparisons of performance across year levels. These comparisons reveal substantial overlap of the distributions.

Within individual systems, the new monitoring programs are beginning to yield comparisons of achievement levels for subgroups of students and also comparisons over time. For the New South Wales program, a full public report was published for the first year of testing in 1989. This showed females performing better than males in literacy and numeracy at Year 3, and in literacy and numeracy at Year 6, but males performing better in measurement and space at Year 6 (Masters et al., 1991). Students of non-English speaking background and students from the indigenous Aboriginal and Torres Strait Islander populations had lower performance levels than the overall student population. Similar analyses and also analyses of emerging trends over time have been undertaken in subsequent years, but have not been published for wide distribution. There is some evidence of improvements in the performance levels of students of non-English speaking background. For these early years of the program, though, some adjustments have been made in the language in the tests to control better against any 'disadvantage' students from such backgrounds might suffer.

The 1975 and 1980 national surveys of performance levels of 10 and 14-year-olds in literacy and numeracy revealed no decline over that five-year period (Bourke et al., 1981). Other sources of national data on achievement levels are limited to three surveys conducted under the auspices of the International Association for the Evaluation of Educational Achievement (IEA). These are the First International Mathematics Study conducted in 1964, and the First and Second International Science Studies conducted in 1970 and 1983. Keeves' (1992) comparison of achievement levels in the ten countries that participated in both science studies showed that Australian performance levels had remained constant, while those of a number of other countries had risen. In 1970 Australia ranked a clear third among 14-year-olds, but in 1983 was tied in fourth place with six other countries.

In negotiations between the school systems for the two national literacy and numeracy studies, the possibility of comparisons between State and Territory systems was explicitly excluded. This exclusion may seem surprising, given that the possibility of experimentation through variations between the systems has been offered as one of the strengths of a federal system.

The Second International Science Study, however, did provide comparisons among the Australian State and Territory systems, and Rosier and Banks (1990, p.128) show that there were marked differences. The results for the study of 14-year-olds, together with the comparative results for some other nations (Postlethwaite & Wiley, 1991, p. 60), are summarised in Figure 2.

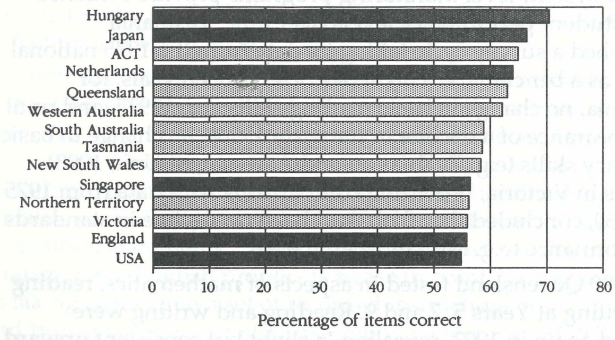


Figure 2: Achievements of 14-year-olds by education system, 1983/84
(Source: Rosier & Banks, 1990, p. 128 and Postlewaite & Wiley, 1991, p. 60)

SETTING STANDARDS THROUGH THE CURRICULUM

In the late 1980s, pressure for more curriculum consistency across the State and Territory systems was mounted by the Federal Minister for Education (Dawkins, 1988) and gained support from the business community. The Directors-General of Education commissioned a succession of curriculum mapping exercises. Initially, the objective was to seek to demonstrate that considerable consistency already existed and that initiatives for national consistency were unnecessary. The work, however, then became a collaborative effort to develop curriculum and assessment frameworks in English and mathematics. One key to the level of success achieved was the curriculum focus and the attempt to address directly issues of classroom instruction and assessment for the purpose of reporting to parents. Support for this initiative, particularly from teachers, was obtained because neither national nor system monitoring was among its purposes.

In April 1989, at a meeting in Hobart, the State, Territory and Federal Ministers of Education declared themselves 'conscious that the schooling of Australia's children is the foundation on which to build our future as a nation'. They defined ten agreed national goals of schooling, set out in what is sometimes referred to as the *Hobart Declaration on Schooling* (Department of Employment, Education and Training, 1990). In 1990, the Ministers, apart from New South Wales, established the Curriculum Corporation, as a jointly owned company through which collaborative work might be facilitated. New South Wales joined in 1993.

From the ten national goals, the Council of Ministers identified eight broad learning areas as the overall structure of the curriculum. These were the arts, English, health and physical education, languages other than English, mathematics, science, studies of society and environment, and technology.

There is a certain convenience about dividing the total curriculum into a relatively small number of areas, particularly if these then become ones in which all students must study. But there is inevitably debate about the results. Traditional studies such as English, mathematics and science can reasonably be dealt with as distinct learning areas, but others are less coherent.

For each learning area, the Council of Ministers commissioned the development of a statement and profile. Statements provide a framework for what will be taught. Profiles set out what students are expected to learn.

A statement defines a learning area in terms of strands that specify content and process. It also provides a curriculum framework by suggesting a sequence for developing knowledge and skills within each strand across four bands, which are broad stages across the school years.

Table 1 gives the strands for the studies of society and environment learning area and identifies the scope of the bands used for all learning areas. Of the six strands into which this learning area has been organised, the first deals with key processes used in all studies in this area and the other five identify key concepts to be learned. The statement provides some elaboration of each strand but does not provide a syllabus. It provides a structure for courses that schools or other agencies might develop.

Table 1: Structure of statement for Studies of Society and Environment
(from Curriculum Corporation, 1994c)

Strands	**Learning area:** *Studies of Society and Environment*
1	Investigation, communication and participation
2	Time, continuity and change
3	Place and space
4	Culture
5	Resources
6	Natural and social systems
Bands	**Broad, overlapping stages for all learning areas**
A	roughly lower primary (years 1–4)
B	upper primary (years 4–7)
C	junior secondary (years 7–10)
D	post-compulsory (years 11–12)

A profile is a description of the progression in learning outcomes typically achieved by students during the years of schooling in a particular learning area. Profiles are sequenced into eight levels, which correspond roughly to the first ten years of schooling.

The profiles provide details for subdivisions of the strands, referred to as strand organisers. Within each strand organiser, student learning outcomes are defined for each of the eight levels. For English, for example, there are three strands: speaking and listening, reading and viewing, and writing. Each of these is subdivided into the same four strand organisers: texts, contextual understanding, linguistic structures and features, and strategies (Curriculum Corporation, 1994b). For each level there is a statement which gives a general description of student performance at that level.

National statements and profiles are now available for all eight learning areas but their status is somewhat ambiguous. Having adopted the Hobart Declaration in 1989, endorsed the development of national profiles in English and mathematics in 1990, and resolved in 1991 that the structure of statements and profiles should also be the basis for national work in the remaining six learning areas, the Ministerial Council in 1993 substantially backed away from this commitment to national collaboration. One possible explanation for this retreat lies in a change in membership of the Council, and more significantly, in a change in the political balance of members. A more subtle explanation acknowledges that the statements and profiles were developed as a genuinely collaborative enterprise in which States and Territories had carriage of the work, but attributes their withdrawal from full cooperation to proposals from the Federal authorities to use the profiles as a basis for national monitoring and reporting. A third explanation attributes the change to public criticisms of some of the statements and profiles. A fourth explanation seeks to minimise the significance of the withdrawal by representing referral to State and Territory Ministers for individual consideration and action as a constitutional necessity, since responsibility for education rests with the States.

Whatever the reasons for the withdrawal from formal cooperative pursuit of a national curriculum structure, all of the systems are now actually introducing the national statements and profiles or some variant of them.

In the first stages of the national development it was intended that the profiles have only six levels and cover the period of compulsory schooling, Years 1 to 10. The Ministerial Council later requested the addition of Levels 7 and 8 to cover Years 11 and 12. However, the diversification of the curriculum in Years 11 and 12 and the specialised nature of some of the courses made this task extremely difficult. The scope of the profiles was then limited again to Years 1 to 10, but Levels 7 and 8 were retained to capture some of the outcomes that might be achieved by advanced students in Year 10. Profiles are said to describe 'the progression of learning typically achieved by students during the compulsory years of schooling (Years 1-10)' with the twofold purpose 'to help teaching and learning and to provide a framework for reporting student achievement' (Curriculum Corporation, 1994c, p.1).

A MERGING OF CURRICULUM AND ASSESSMENT PERSPECTIVES

In the 1990s these new curriculum and assessment initiatives, and the earlier ones concerned primarily with assessment, have substantially come together. Demands from business and industry groups for clear curriculum frameworks, improvement in student performance levels and the development of monitoring systems, have been evident in various pronouncements.

The National Industry Education Forum (1991) nominated as one goal for schools the development 'in all major curriculum areas of national curriculum statements and frameworks which will identify common learning tasks and agreed performance standards'; and as another goal the development of 'a comprehensive system of performance and accountability measures which will allow for valid and reliable assessment of student and teacher performance as a basis for national and international comparison'.

In pursuit of these goals, the Forum commissioned a paper on assessment and monitoring systems which analysed the inadequacies of available data, and described strategies for implementing national monitoring procedures (Masters, 1991). The Forum then elaborated strategies for achieving the goals (National Industry Education Forum, 1992). The Institute of Public Affairs, a think-tank with substantial business support, similarly promotes the introduction of national assessment 'preferably in Years 3, 6 and 9, to ensure that acceptable standards in English and mathematics are being attained, and to identify strengths and weaknesses at the individual, school and systemic level' (Kramer et al., 1992). In a forthcoming report commissioned by the Council of Australian Governments it is widely anticipated that the Industries Commission will recommend national assessment of some aspects of student performance.

Performance standards have been developed both *a priori* and *a posteriori*. The development of the national profiles represents an *a priori* approach in which the statements of standards to be achieved were formulated to express desired learning outcomes. Some monitoring programs, on the other hand, have developed definitions of performance standards *a posteriori*, following examination of the measured outcomes that students actually achieve.

One example of *a posteriori* standard setting is provided by an evaluation of literacy and numeracy levels in Victorian schools. This study was commissioned by the Minister of Education to identify how many students were completing schooling with inadequate skills, as well as to provide comparison of current with past levels of achievement. The survey was based on samples of Year 5 and 9 students and used for each level tests keyed to the curriculum but with sufficient common items for all items at both levels to be calibrated onto a common scale (McGaw et al, 1989). The units on the scale, ranging from around 20 to around 60, were chosen arbitrarily so as not to use numbers of the type frequently used in educational testing in schools and related to number or percentage of items correct. Inspection of the specific content of items on the scale identified the level of minimally acceptable performance for adults as 35. The percentages of Year 5 and 9 students below this level were then estimated and reported, thus providing an answer to the Minister's first question - that is, how many students were completing schooling with adequate skills. By exposing the definition in this way, others are enabled, by examining the items on the scale, to nominate more or less generous definitions of minimum competence. But it necessitates that their definitions be as explicit.

In the New South Wales Basic Skills Testing Program a similar approach to scale calibration was taken, but a new form of presentation of results was developed to permit a verbal description of the performance levels of all students.

When the Western Australian *Monitoring Standards in Education* project commenced, the first national profiles and the Western Australian outcome statements had been developed so the monitoring program was keyed to the outcome statements (Titmanis et al., 1993). This approach permitted levels of achievement to be defined *a priori* in terms of the outcome statements; and allowed for the test items to be designed to tap particular levels. It also permitted a first attempt at empirical validation of the classification of outcomes to levels. Figure 3 shows the calibrations of some of the test items designed to assess outcomes at Levels 1 to 4 on the space strand of mathematics.

The level of outcomes tapped by each item shown in Figure 3 is indicated by the first digit in the item number. From the calibrated location it is clear that item 1.6, designed as an item to tap a Level 1 outcome, is more difficult than most of those shown

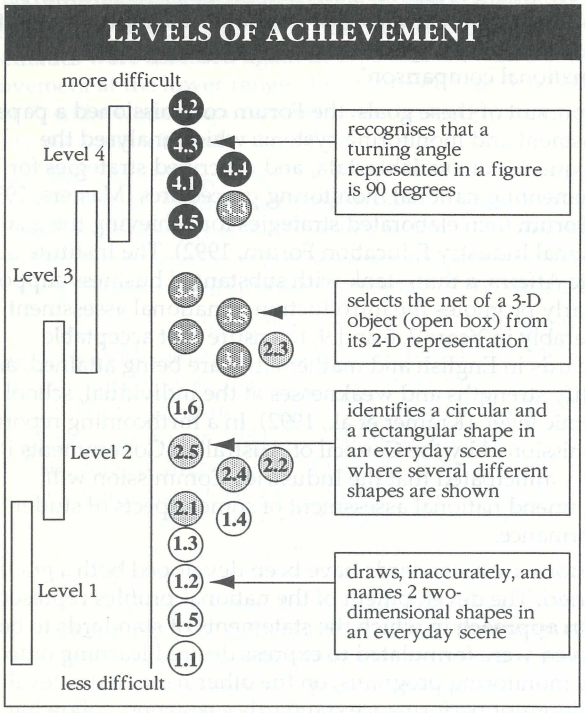


Figure 3: Some calibrated items from space strand in WA Monitoring Standards Project
(from Titmanis et al., 1993, p. 7.)

as tapping Level 2 outcomes. Apparent anomalies such as this may reveal a fault in the item or a misallocation of the outcome to the particular level.

Work on the national profiles, and subsequent work on State and Territory variants to cover the compulsory years of schooling in Years 1 to 10, was informed primarily by prior curriculum development experience, and where available, research evidence on the developmental sequence of skill acquisition. These curriculum documents express goals and aspirations for schooling, moderated by experience of some of the participants in actually teaching students at various levels of schooling in the relevant learning area.

Empirical considerations of what students can achieve have been of secondary importance in the development of the curriculum profiles. They have had a stronger role, though, in some of the monitoring programs.

Empirical validation of sequenced outcome statements can lead to adjustments to standards other than the technical ones indicated by misfitting items. Normative considerations can also justify adjustments to standards. If only a few students are able to achieve outcomes set as desirable for their stage of schooling, then the appropriate response may be to set these outcomes at a higher level. But where the outcomes are an expression of goals earnestly held, an alternative approach would be to retain them, and to develop strategies that make them achievable at this earlier stage. Similarly, if almost all students at a particular stage can achieve outcomes actually set for a higher level than they have generally reached, there may be grounds for moving those outcomes to a lower level.

Careful development of assessment procedures can also clarify and refine a set of outcome statements in another significant way. The need to develop assessment tasks along a continuum of achievement can require more precise definition of the continuum than is provided in statements such as those in the profiles, particularly in areas not so richly addressed in typical curriculum statements. 'Speaking and listening' - as one of the strands in the English profile - is a case in point. Using tasks such as taking notes from a set of recorded instructions from 'mother' and from an announcer at an assembly, Forster et al. (1994) has developed a protocol for scoring responses which - while it is based on the national profile for English (Curriculum Corporation, 1994a) - produces a much more detailed continuum of skills. In doing so, it elaborates the original profile in terms of item locations.

Overall, recent Australian experience suggests that the best standard setting occurs when curriculum and assessment considerations are married. Curriculum considerations alone produce *a priori* prescriptions of outcomes to be achieved which may be unrealistic in their level or their sequence. Assessment considerations alone necessitate an *a posteriori* approach to standard setting which, in sifting the data of student performance, can conceptualise outcomes in ways that are not adequately linked to the curriculum. A curriculum framework specified in terms of desired student outcomes provides a structure to which assessments can be keyed so that the results provide a curriculum-linked evaluation of students and teaching.

REFERENCES

Adams, R.J., Doig, B.A. & Rosier, M. (1991). *Science learning in Victorian schools: 1990.* Hawthorn, Vic.: Australian Council for Educational Research.

Bourke, S.F., Mills, J.M., Stanyon, J. & Holzer, F. (1981). *Performance in literacy and numeracy: 1980.* Canberra: Australian Education Council.

Curriculum Corporation. (1994a). *English - a curriculum profile for Australian schools.* Carlton: Curriculum Corporation

Curriculum Corporation. (1994b). *A statement on English for Australian schools.* Carlton: Curriculum Corporation

Curriculum Corporation. (1994c). *A statement on studies of society and environment for Australian schools.* Carlton: Curriculum Corporation

Dawkins, J. (1988). *Strengthening Australia's schools: A consideration of the focus and content of schooling.* Canberra: Australian Government Publishing Service.

Department of Employment, Education and Training. (1990). *Australian national report on the development of education.* International Conference on Education, 42nd Session, Geneva, 1990. Canberra: Australian Government Publishing Service.

Evaluation and Assessment Unit. (1993). *1992 survey of basic numeracy skills of 10-year-old Tasmanian students.* Hobart: Department of Education and the Arts.

Forster, M., Mendelovits, J. and Masters, G. (1994). *Developmental assessment resource for teachers (DART) English.* Melbourne: Australian Council for Educational Research.

Hill, P. (1994). *Putting the national profiles to use.* Unicorn, 20(2), 36-42.

House of Representatives Select Committee on Specific Learning Difficulties. (1976). *Learning difficulties in children and adults.* Canberra: Australian Government Publishing Service.

Keeves, J.P. (1992) *Learning science in a changing world: Cross-national studies of science achievement: 1970 to 1984.* The Hague: International Association for the Evaluation of Educational Achievement (IEA).

Keeves, J.P. and Bourke, S.F. (1976). *Literacy and numeracy in Australian schools: A first report.* Australian Studies in School Performance, Vol. I. Canberra: Australian Government Publishing Service.

Kramer, L., Moore, S. and Baker, K. (1992). *Educating Australians.* Canberra: Institute of Public Affairs.

Lokan, J. and Ford, P. (1994). *Mapping state testing programs.* Melbourne: National Industry Education Forum.

Masters, G., Lokan, J., Doig, B., Khoo, S.K., Lindsey, J., Robinson, L. & Zammit, S. (1990). *Profiles of learning: The Basic Skills Testing Program in New South Wales 1989.* Hawthorn: Australian Council for Educational Research.

Masters, G.N. (1991). *Assessing achievement in Australian schools.* Melbourne: National Industry Education Forum.

McGaw, B., Long, M.G., Morgan, G. and Rosier, M.J. (1989). *Literacy and numeracy in Victorian schools: 1988.* ACER Research Monograph No. 34. Hawthorn: Australian Council for Educational Research.

National Industry Education Forum. (1991). *Declaration of goals for Australia's schools.* Melbourne: National Industry Education Forum.

National Industry Education Forum. (1992). *Improving Australia's schools: Building a foundation for a better Australia.* Melbourne: National Industry Education Forum.

Postlethwaite, T.N., & Wiley, D.E. (Eds). (1991) *The IEA science study II: Science achievement in twenty-three countries.* Oxford: Pergamon.

Quality Assurance Directorate. (1994). *Assessment of student performance 1993: Aspects of mathematics: overall results.* Brisbane: Department of Education.

Review and Evaluation Directorate. (1993). *Assessment of student performance 1992: Aspects of reading and writing: overall results.* Brisbane: Department of Education.

Rosier, M.J. & Banks, D.K. (1990). *The scientific literacy of Australian students.* ACER Research Monograph No. 39. Hawthorn, Victoria: Australian Council for Educational Research.

Titmanis, P., Murphy, F., Cook, J., Brady, K. and Brown, M. (1993). *Profiles of student achievement: English and mathematics in Western Australian government schools 1992.* Perth: Ministry of Education.

New Releases from ACER March 1995

AAIM
Activities and Assessment in Mathematics

WHAT IS AAIM?

AAIM is a collection of over 200 photocopiable classroom activities.

AAIM complements current learning experiences for upper primary and special needs students at junior secondary level.

AAIM covers the five strands outlined in *Mathematics - A Curriculum Profile for Australian Schools:*

Number | Space | Measurement | Chance & Data | Problem Solving

AAIM provides teachers with a practical basis for reliable, informal assessment.

AAIM activities focus on conceptual understanding, skill development and applications.

AAIM activities have been linked to an appropriate focus which is aligned to the Mathematics Curriculum Profiles Levels 3 and 4.

FORMAT OF AAIM ACTIVITIES

Every activity has the same format and working principles to simplify use in the classroom. Most activities have a student's page and a teacher assessment page. Some include partner work. There are four basic parts to the student's side of an activity sheet and three parts to the teacher's side.

All AAIM activity sheets may be photocopied

Student's side:
- The activity name and code
- What you will need
- What to do
- What to do next

Teacher's side:
- Activities focus (what is being assessed)
- Scoring guide
- Comments where applicable

SELECTING AAIM ACTIVITIES...

Possible selection approaches:

BY THE STUDENT'S NEEDS

The obvious criterion for selection of a particular activity is the needs of the student. In most cases this will be determined by curriculum requirements.

BY AGE OR BY YEAR LEVEL

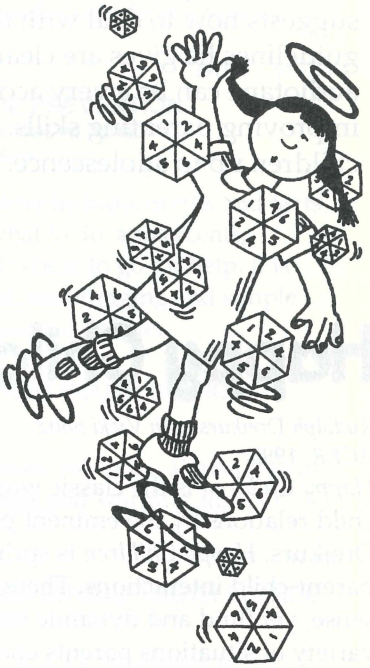
The activities are designed for students from the upper primary to lower secondary years of school. Less mathematically able students may still benefit from working in a pair or group with other, more able, peers.

BY SCHOOL CURRICULUM

The activities are grouped by the mathematical topics most commonly found in Australian curriculum documents.

BY NATIONAL PROFILES

AAIM activities are located at the *Mathematics – A Curriculum Profile for Australian Schools* Levels 3 and 4 descriptions. An index shows the relationship between AAIM activities and the profile topics.



Complete kit (Manual & Masters) 990LM $249.00

SCHIZOPHRENIA RESOURCES

SCHIZOPHRENIA: AN OVERVIEW AND PRACTICAL HANDBOOK

D Kavanagh, University of Sydney, Australia 1992

This book offers an introduction to theory, practice and current status of our knowledge of schizophrenia. The contributors are mainly from the USA, UK and Australia and are respected in their field. The three main sections are: Overview of Schizophrenia, Assessment of Schizophrenia and Treatment of Schizophrenia.

396 BK $79.95

SCHIZOPHRENIA: AN EDUCATION KIT

Schizophrenia Australia, 1994

This kit was produced for teachers of senior secondary and tertiary students as a resource for research projects or course work in a variety of subject areas such as psychology, health and health and welfare. It contains a selection of leaflets and booklets and a text titled *Altered Lives* (see below) which is a collection of personal experiences of schizophrenia.

990QCS $15.00

BROTHERS AND SISTERS KIT

Schizophrenia Australia, 1994

This kit, compiled as a result of research which showed that mental illness has a serious impact on the lives of siblings, contains common-sense information for brothers and sisters of people with schizophrenia. Topics include: The Facts, Working Things Through, and Learning New Skills. It is intended as a resource, and a reference point to show where further help can be gained. The Foundation is open to suggestions for the next edition.

990QCT $8.00

THE CASE OF JOSHUA KIRK: AN EPISODE OF SCHIZOPHRENIA

Schizophrenia Australia

This book does not intend to address the origins of schizophrenia either academically or biochemically, but it does hope to reveal the experience of schizophrenia and demonstrate that sufferers remain human beings. Information is also offered about hospital-based management. Patients and their families will see this book as an education resource.

394BK $8.00

ALTERED LIVES: PERSONAL EXPERIENCES OF SCHIZOPHRENIA

Schizophrenia Australia, 1994

Ten people tell their stories to help others understand what it really feels like to have schizophrenia. Of particular value to secondary and tertiary students.

395BK $8.00

MAKING PARENTING EASIER: COMMON BEHAVIOURAL PROBLEMS IN CHILDREN A GUIDE FOR PARENTS

Maurice Balson, 1995

AUDIOTAPE

Dr Maurice Balson, best-selling author of *Becoming Better Parents*, looks at ways of making the lives of parents easier by suggesting how to deal with ordinary, everyday behaviour problems. On this audiotape many everyday issues are presented in dramatised form. Dr Balson explains why children misbehave and suggests how to deal with the problem. The guidelines he gives are clear and effective. This audiotape can be a very accessible way of improving parenting skills. Suits parents of children up to adolescence. Forty minutes.

800MB $16.95

Happy Children

Rudolph Dreikurs with Vicki Soltz
ACER, 1995

Happy Children is the classic work on improving parent-child relations by the eminent psychiatrist, Rudolph Dreikurs. *Happy Children* is sprinkled with examples of parent-child interactions. There is a warm, common-sense, yet fluid and dynamic response to the wide variety of situations parents encounter. Over 500 000 copies of *Happy Children* have already been sold world-wide.

391BK $19.95

You Can Do It! Parent Education Program

Michael E. Bernard, Yvonne Willoch and Karen Stammers, 1994

The *You Can Do It! Parent Education Program* informs parents about their importance in their child's educational achievement. It offers parents knowledge and skills to help their children with academic achievement, motivation, confidence, self-esteem, and interpersonal effectiveness.

The program is divided into three parts:

1. Background to Educational Under-Achievement
   - What is educational under-achievement?
   - Types of under-achieving students
   - Parenting styles and under-achievement
2. What You Can Do: Home Foundations
   - Parent-child relationship
   - Parent involvement in your child's education
   - Attitudes and motivational skills
3. Tips for Working With Your Child
   - Tips for boosting self-esteem
   - Tips for motivating your child to do homework
   - Tips for tutoring your child

The program can be used in a preventative way, or with parents of children who are already having difficulty with study.

Home Version *(Video and Parent Handbook)* 990LW $54.95
School Version
(Video, Leader's Guide, and Parent's Handbook) 991LW $180.00

SEXTALK: FOR PARENTS AND TEENAGERS

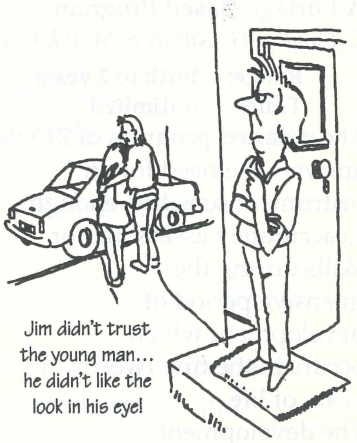
June Morris, 1995

Sextalk is a book to help parents give accurate sex information to their teenagers. *Sextalk* encourages parents to answer their adolescent's fears and concerns about sexual behaviour and health in a straightforward, open way that does not induce secretiveness, or lead to taking inadequate protective measures.

Topics include stages of adolescent development, puberty, menstruation and the fertility cycle, contraception, unplanned pregnancy, sexually transmitted disease including HIV and AIDS, sexual hygiene, and homosexuality.

Sextalk gives concise and accurate answers to all the common questions adolescents ask. Although written for parents, the book can be read by teenagers as well.

The author is a nurse and educator who has had responsibility for the team of educators servicing Family Planning Clinics in Queensland. The book would be useful to parents and adolescents and as a resource in libraries.



330BK $12.95

SUICIDE AWARENESS MATERIALS

SUICIDE AWARENESS TRAINING MANUAL

Margaret Appleby with Dr Raymond King and Barry Johnson
Rose Education, 1992

This manual is a comprehensive, practical resource for educators. It has been accepted by various Departments of Education as a teaching resource for schools.

The manual is a ring-bind folder divided into sections:

- Introduction
- Information (definition of suicide, perspectives on suicide, attitudes, myths and facts, risk factors, warning signs)
- Helping the Suicidal Person
- Schools (Part 1. Suicide awareness and prevention strategies. Part 2. Postvention strategies)
- Special Groups (adolescents, homeless youth, murder/suicide)
- Helping Survivors (benefits of survivor groups, coping strategies)
- Resources

This Australian manual has fact sheets suitable for over-heads or handouts.

990LS $70.00

HELPING SUICIDAL CHILDREN: A TRAINING MANUAL

Margaret Appleby with Dr Raymond King and Barry Johnson
Rose Education, 1994

Helping Suicidal Children assists parents, caregivers and those working with children to understand, respond appropriately and to develop strategies for helping a suicidal child. It includes information about children's concept of death, and recognising and helping a suicidal child.

990LU $60.00

SURVIVING THE PAIN AFTER SUICIDE

Margaret Appleby
Rose Education, 1992

This book provides simple and effective ways to help those left behind when someone significant in their lives dies by suicide. It contains chapters for family, friends, police, clergy, funeral directors, medical personnel, media and schools. Survivors of suicide share what they found helpful or not helpful, and this in turn helps caregivers to be more effective. 72 pages.

399BK $10.00

UNDERSTANDING AND HELPING SUICIDAL CHILDREN

Margaret Appleby
Rose Education, 1994

Understanding and Helping Suicidal Children is a new title which seeks to increase awareness surrounding the problem of children who consider suicide as a way of coping with their situation.

397BK $10.00

HEARING THE CRY: SUICIDE PREVENTION

WHAT TO LOOK FOR, WHAT TO DO, WHERE TO GO

Margaret Appleby and Margaret Condonis
Rose Education, 1990

Chapters of this 56 page booklet include: myths and facts, warning signs, risk factors, what to do, adolescents, elderly, survivors, when and where to go for help. It is easy to read and has practical, encouraging and simple information about helping suicidal people.

398BK $10.00

TELL TELL TELL: PREVENTING YOUTH SUICIDE

Margaret Appleby and Raewyn King
Rose Education, 1993

Written for younger adolescents, this book alerts them to the myths and facts, risk factors and warning signs of adolescent suicide.

401BK $2.00

BE A FRIEND FOR LIFE: PREVENTING YOUTH SUICIDE

Margaret Appleby and Raewyn King
Rose Education, 1992

This booklet covers similar material to *Tell Tell Tell*, but is aimed at older teenagers.

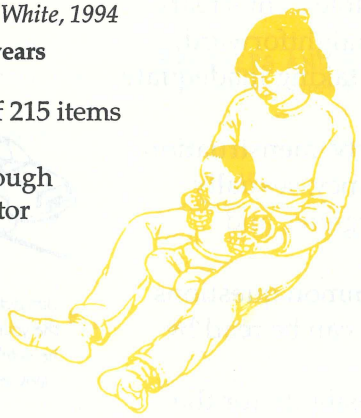
400BK $2.00

Guide to Early Movement Skills

A Portage-Based Program

C. Bungay, H. Gabriel & M. White, 1994

Range: birth to 2 years
Time: unlimited



The detailed program of 215 items answers the need for an instrument sensitive enough to accurately assess motor skills during the intensive period of development which occurs in the first two years of life.
The development levels have been split into 6 smaller stages, each covering four chronological months. This allows a more detailed assessment of the child's movement abilities and more targeted intervention.
Especially designed for use by occupational therapists.

Complete Set *(Includes Instruction Booklet, 15 Checklists and Activity Book)*	990LF	$105.90
Checklists *(15 checklists plus Instruction Booklet)*	100LF	$53.00

The 1995 What Color is Your Parachute?

Richard Nelson Bolles

This annual book is a practical manual for job-hunters and career-changers. It is the best selling job-hunting book in the world.

ISBN 0 89815 568 1 364BK $24.95

Australian Education Directory 1995

Do you have a current copy of the *Australian Education Directory*? The 1995 edition is the most comprehensive guide to Australia's educational organisations and key personnel.

505AN $55.00

Issues

Issues is an all-Australian resource magazine for teachers of social education, including geography, history, ecology and science. ACER has recently taken over the publishing of *Issues* from Underwood Publications. The magazine has a new look, and is now A4 size, with a full colour cover.
An annual subscription includes four editions. Each edition deals with one topic. Future topics include: Antarctica, Woodchipping and Feral Animals.

ISSN 0819-8101 995IM $39.95

March 1995
Phone (03) 277 5656
Fax (03) 277 5678
After 8 May 1995:
Phone (03) 9277 5656
Fax (03) 9277 5678

ACER ORDER FORM

ACER Customer Service
Private Bag 55
Camberwell Vic 3124 Australia
ACN 004 398 145

Title	Cat. No.	Price	Qty	Total Price

NB: Prepayment required for non-account customer orders up to $50.00 in value.

FREIGHT/HANDLING CHARGES
10% of invoice value
$3 minimum, $15 maximum

Freight _____
Total $ _____

Name _____
Street Address _____
Postal Address _____ Postcode _____
School / Organisation _____ Your Order No. _____
Account No. _____ Telephone ( ) _____
Enclosed: ❑ Cheque ❑ Bankcard ❑ Mastercard ❑ American Express ❑ Visa authorisation

☐☐☐☐ ☐☐☐☐☐☐☐☐ ☐☐☐☐

Name (please print) _____
Signature _____ Card Expiry Date _____

Tick (✓) to receive your free catalogue	
Education (available April 95)	
Parent Education	
Personnel (available May 95)	
Psychology (available May 95)	
Developmental Assessment Resource for Teachers (DART) -English brochure	