Chapter 13
Literacy and Numeracy

INTRODUCTION

Around the world, renewed emphasis is being placed by governments and employers on literacy and numeracy skills for all people to enhance their employability, job satisfaction, level of remuneration and community participation.

Australian industry needs competent, skilled workers with the flexibility to adapt to the changing workplace.

BACKGROUND

Employers expect that prospective employees will possess basic literacy and numeracy skills. It is desirable for the modern employee to have multiple literacies, from basic computer and information technology skills, language and communication skills, critical and cognitive thinking skills as well as the ability to comprehend Occupational Health and Safety (OHS), Hazard Analysis and Critical Control Point (HACCP) and other legislative requirements.

Such skills are essential whether the employee is a Vocational Education and Training graduate or a University graduate.

Sound literacy and numeracy skills must be taught in primary school and reinforced in secondary school and further education.

CONSIDERATION OF ISSUES

Language, Literacy and Numeracy Skills (LLN) are not static notions and have changed over time. With the advent of technology and the impact of other historical variables, new LLN skills have come into being and are essential in a post-modern environment. For example, a generation ago the composition of text for email was an undreamt skill requirement. Even though LLN skills are constantly evolving, employers require that standards apply.

There is a need in the shift of emphasis in the methodologies and ideologies employed within the education sector to ensure that young people are adequately equipped with the essential skills to participate effectively within Australian society and the workforce.

While the human capital agenda in adult literacy is worthwhile and necessary, it could go further. Through Workplace English Language and Literacy (WELL) and the Language, Literacy and Numeracy Programme (LLNP), the federal Government has had some influence on LLN development, but at the ground level, implementation is still strongly focussed towards achieving "social capital" outcomes.

A move away from approaches to literacy development that focus on the so-called "socio-cultural contextualisation" of student needs to a model that concentrates on the development of essential skills that are applicable to the rigours of working life is needed to ensure that young people develop the required essential skills.

Business and enterprises recognise low levels of functional literacy and numeracy as being a major barrier to growth.

A recent report produced by the Confederation of British Industry (CBI), *Working on the Three Rs: Employers' Priorities for Functional Skills in Maths and English*,[1] identified key areas of literacy and numeracy that are considered essential to employers. These skill areas are identified in the Appendix. It identifies the major business impact of the perceived gaps in functional literacy and numeracy as a clear waste of resources. The issues and solutions identified in the report translate broadly to the Australian context.

ACCI has been concerned about reports that indicate students often need to take remedial courses in subjects such as Maths when commencing university studies because of different standards between States and Territories. The LLN skills of graduates are also of concern to employers when simple tasks such as composing a business letter are lacking.

There is some disagreement between employers over whether literacy and numeracy standards have fallen after schooling and other education or whether the new knowledge economy has created a demand for higher levels of proficiency for entry-level positions.

A lack of consistent standards may result in additional costs for employers for education and training. Achieving basic standards for LLN skills is a clear priority in the skills debate especially in times of pressure on labour supply.

School Education

OECD research indicates that a country can achieve gains of up to 2.5% GDP per capita from a 1 percent increase in literacy compared with other countries. Australia's performance on literacy compared with other countries has been good in the past. At the time of writing this Blueprint, the most recent comparative data available was the Programme for International Student Assessment (PISA) 2003 study. PISA is an internationally standardised assessment jointly developed by participating countries and administered to 15 year olds in schools.[2]

The data showed Australia's results were above the OECD average in mathematical, scientific and reading literacies.[3] This is a record that Australia needs to maintain and improve.

To ensure sound literacy and numeracy skills begin at a primary school, ACCI supports National Literacy and Numeracy Benchmarking testing in Years 3, 5 and 7 and 9.

Not only does such testing identify students who require further assistance, it identifies schools that may be performing below national standards. In both instances Government can then implement strategies to assist students, their parents and the schools.

Vocational Education and Training

Employers expect that applicants for Australian Apprenticeships will satisfy basic literacy and numeracy requirements and they are often required to sit short written tests examining standard workplace literacy, numeracy and general skill requirements. Unfortunately, the results of these tests are often unsatisfactory. In some instances this issue has been exacerbated by the applicant having successfully completed a lower level Vocational Education and Training certificate, casting doubt upon the quality and outcomes of such programs.

An important development in Vocational Education and Training has been the requirement to ensure that industry developed and endorsed Training Packages clearly outline literacy and numeracy outcomes and skill requirements in specific work competencies. This is strongly supported by industry.

The updated Training Package framework provides another opportunity for Industry Skills Councils to ensure the qualifications and competency requirements in Training Packages are re-examined to reduce duplications and take account of required literacy and numeracy standards.

University Graduates

There is also an expectation by employers that higher education graduates will possess high literacy and numeracy skills along with a high level of academic achievement.

Graduate Skills Assessment

One important development in this area was the establishment of the Graduate Skills Assessment (GSA) test, which is conducted on a voluntary basis at entry and following the completion of a Bachelor degree. Skills assessed include written communication and problem solving and each skill is assessed against three described skill levels.

There are problems currently with the perception of the importance of the test by students and industry. There is no doubt there is a lack of knowledge and understanding of the GSA by employers and it does not reflect the current directions of employers and industry on the developed employability skills. Consequently, universities have been cautious when allocating funds to administer the test.

The three key changes required for the GSA to gain employer support are to:

- modify the GSA to align it with the ACCI/BCA Employability Skills Framework;
- promote the GSA to employers encouraging its use as one of the available recruitment tools; and
- use the GSA as a research base to inform industry, Governments and providers on the achievement of employability skills in the higher education and other education and training sectors.

CONCLUSION

ACCI believes there is a need for detailed research on this topic with the involvement of employer organisations. There is little disagreement, however, with the proposition that better educated people have better literacy and numeracy skills and that those who are marginal to the labour market, such as the long term unemployed, tend to have more significant problems in this area.

While a lack of employee literacy and numeracy skills is

of particular concern to business, an understanding from an employer perspective of how literacy and numeracy fit in with other employability skills necessary for effective participation in the modern workforce is useful when considering possible future action.

As international labour and capital becomes more mobile, and as overseas governments act to improve the ability of their citizens to compete in the global marketplace, it is important to ensure that Australian-educated employees are not left behind.

Overall, improvements must be made, and regular tests conducted on a nationally agreed and consistent basis, on literacy and numeracy standards.

ACCI PROPOSALS

ACCI proposes that:

- all governments confirm that a key feature of Australia's education and training system must be literacy and numeracy;
- reading and understanding information texts, reading and writing, spelling and grammar, legible handwriting and oral communication are the essentials of literacy from an employer perspective;
- all governments support National Literacy and Numeracy Benchmarking testing in Years 3, 5 and 7 and 9; and that they:
  - implement national reporting in plain English on literacy and numeracy skills including the percentage by which they have passed or failed;
  - publish data for schools, systems and at the state and territory level on levels of literacy and numeracy;
  - report on exit from school to show performance against set national criteria;
  - continue and expand early intervention programs to support students and their parents to address below standard literacy skills.
- the Graduate Skills Assessment Test:
  - be modified to better align it with the ACCI/BCA Employability Skills Framework;
  - be promoted to all employers to encourage its wider use;
  - be used as a research base to inform industry, governments and providers on the attainment of employability skills in the higher education and other education and training sectors;
- governments should, further:
  - establish a new early intervention program for applicants identified by employers as failing entry requirements for literacy and numeracy but who meet other standards;
  - prepare case study material across enterprises of all sizes on human resource best practices; and
  - use the Employability Skills Framework to pursue further policy work in the areas of literacy and numeracy.
  - undertake research to better identify the economic impact of literacy and numeracy deficits on Australian employers; and
  - undertake further research on whether literacy and numeracy standards are falling after the completion of schooling or whether there are higher levels of proficiency required for entry-level positions in the knowledge economy.

[1] CBI, August 2006, *Working on the Three Rs, Employers' Priorities for Functional Skills in Maths and English*, pp 5-6

[2] http//www.pisa.oecd.org/pages/0,2966,en,_32252351_32235907_1_1_1_1_1,00.html.

[3] OECD, 2006, *PISA in Brief from Australia's Perspective*, p3.

APPENDIX

Key Conclusions from the report "Working on the Three Rs"

1. The ability to read and understand basic information texts is an obvious and fundamental component of functional literacy. In functional terms, what matters is for people to be able to identify a relevant item of text, to read it reasonably rapidly and easily, to take in the essential information and, if appropriate, to act on it. The ability to cope with more complex text is important if individuals are to be able to progress to higher level jobs.

2. Reading and writing must be considered separately. They tend to be rolled up together and treated as one, but writing tends to pose much more of a problem. The ability to put together a piece of writing that conveys meaning clearly and accurately is an essential functional skill. The inability to put together a short coherent piece of writing has serious implications for those seeking work or thinking of changing jobs.

3. Spelling and grammar are important and are widely seen as weak. Correct spelling of everyday words and proper use of basic grammar are important for clarity of expression and fostering a reader's confidence. There is a particular dislike of 'text speak'. A functionally literate employee should be expected to be able to observe the basic rules of grammar, be able to spell everyday words correctly, use capital letters and basic punctuation properly, and use a writing style appropriate to the situation.

4. Legibility of handwriting matters. The case studies repeatedly threw up the importance of legible handwriting. There is a wide range of forms to be completed by hand in most organisations. In certain circumstances, some of these are documents that may potentially be called in evidence in legal proceedings. A functionally literate employee should have handwriting that is sufficiently well formed that others will be able to read the text with confidence.

5. Because reading and writing are different skills, both need to be tested. A multiple choice, online comprehension exercise is not an adequate means of assessment of writing as well as reading.

6. Understanding and responding appropriately to oral communications are essential skills. Employees also need to be sufficiently articulate to be able to raise queries if the instructions are not clear to them, or to raise practical matters of concern that flow from the instruction.

7. Multiplication tables and mental arithmetic without using a calculator constitute an essential aid in all sorts of work activities.

8. The ability to interpret and respond to quantitative data is a key part of modern working life. Data of this type is presented not only to keep employees in the picture, but employees are also expected to interpret it sufficiently to contribute to problem solving and quality improvement.

9. Calculating and understanding percentages is a functional maths skill. Percentages are widely used in internal communications and in many jobs it is essential to be able to calculate them readily. A functionally literate person should therefore both be able to calculate a percentage and interpret the significance of percentages communicated to them.

10. As well as percentages, a mathematically literate person will be able to work comfortably with fractions, decimals, and ratios. For many organisations, the ability to use a formula is also highly desirable.

11. It is important for employees to have awareness of different measures and the ability to convert between them. Despite all the moves towards metrication, imperial and metric measures both remain in daily use. Employees need to be able to cope with that reality.

12. Spotting errors and rogue figures is an important element of functional maths. A functionally numerate employee will also instinctively carry out a reality check and pause to check what may potentially be a rogue result.

13. Some basic understanding of odds and probabilities to enable people to make a more realistic assessment, rather than treating every risk as equally likely to happen, could form a useful element of functional mathematics.

14. Functional skills are skills that have a practical purpose. It is important to boost awareness of their potential application, particularly key elements of

mathematical literacy, in real and different contexts.

15. Employees need to know not only whether young people have passed or failed their functional skills modules but also the margin by which they have done so. The right approach is that the simple pass or fail should be accompanied by release of the percentage mark for each element of the modules.

16. To ensure employer buy in, it is essential that the Qualifications and Curriculum Authority standards are clear to employers both in terms of the skills they will deliver and the level of mastery they reflect, using 'can do' illustrations of skills.

17. IT skills are of growing importance in most jobs, but the ability to acquire those depends on a solid foundation of literacy and maths skills.

18. During the course of the research, employees voiced concerns about a number of other aspects of what they viewed as basic skills. These included the decline in practical or 'hand' skills of young people, the increasing need for social skills and some concerns about general attitude.