

**Assessment Research Centre &  
Centre for Vocational Assessment Research**

# **1999 ANNUAL REPORT**

**Assessment Research Centre &  
Centre for Vocational Assessment Research**

Department of Learning and Educational Development  
The University of Melbourne  
Level 4, Alice Hoy Building  
Victoria 3010 Australia

Telephone +61 3 8344 8206

Facsimile +61 3 8344 8790

Web site <http://arc.edfac.unimelb.edu.au>

For more information or additional copies, please contact:

Assessment Research Centre  
The University of Melbourne  
Victoria 3010  
Australia

Telephone: +61 3 8344 8206

Facsimile: +61 3 8344 8790

The report and other details of the Assessment Research Centre are available on the  
Web site <http://arc.edfac.unimelb.edu.au>

# Table of Contents

<b>INTRODUCTION .....</b>	<b>1</b>
<b>MISSION AND PHILOSOPHY .....</b>	<b>3</b>
RESEARCH.....	3
PUBLICATION .....	3
DEVELOPMENT .....	3
TRAINING .....	4
<b>PERSONNEL .....</b>	<b>5</b>
RESEARCH INTERESTS .....	6
CONSULTANTS AND CASUAL STAFF .....	9
<b>RESEARCH PROGRAMS .....</b>	<b>10</b>
1. VOCATIONAL ASSESSMENT PROJECTS .....	10
2. APPLIED MEASUREMENT PROJECTS.....	11
3. TEACHING, TRAINING AND SUPERVISION .....	11
<b>VOCATIONAL ASSESSMENT RESEARCH.....</b>	<b>12</b>
1.1 WORKPLACE ASSESSOR TRAINING.....	13
1.2 VALIDITY AND RELIABILITY .....	15
1.3 DEVELOPMENT OF THE NATIONAL TRAINING PACKAGE FOR WORKPLACE ASSESSMENT AND TRAINING.....	16
1.4 WORKPLACE ASSESSMENT IN SCHOOL INDUSTRY PARTNERSHIPS .....	19
1.5 AN INTEGRATED APPROACH TO ASSESSMENT OF HIGHER ORDER COMPETENCIES.....	22
1.6 STANDARDISED OUTPUT MEASURES FOR VOCATIONAL EDUCATION AND TRAINING - A PAIRWISE COMPARISON APPROACH.....	24
1.7 FACTORS INFLUENCING COMPLETION RATES OF NEW APPRENTICESHIPS AND TRAINEESHIPS .....	26
1.8 TRAINING NEEDS ANALYSIS FOR INFORMATION TECHNOLOGY COMPETENCIES AMONG LIBRARY STAFF .....	28

1.9	DEVELOPMENT OF PROFESSIONAL STANDARDS FOR VIETNAMESE PRIMARY TEACHERS .....	30
1.10	REVIEW OF COMPETENCY ASSESSMENT AND TRAINING FOR THE MELBOURNE TAXI INDUSTRY .....	31
<b>APPLIED MEASUREMENT RESEARCH.....</b>		<b>32</b>
2.1	TASMANIAN YEARS 3 & 5 LITERACY AND NUMERACY: ASSESSMENT AND MONITORING PROGRAM .....	33
2.2	SOUTHERN AFRICAN CONSORTIUM FOR MONITORING IN EDUCATION QUALITY (SACMEQ).....	38
2.3	PROBLEM SOLVING IN MATHEMATICS .....	40
2.4	BENCHMARKS IN ASIAN STUDIES.....	41
2.5	TRANSFER OF PROFILES TO INTERNATIONAL SETTINGS.....	42
2.6	DETERMINANTS OF LITERACY AND NUMERACY AMONG PRIMARY SCHOOL CHILDREN IN VIETNAM.....	44
2.7	DEVELOPMENT OF KEY PERFORMANCE MEASURES TO MONITOR PROGRESS..... IN THE INFORMATION TECHNOLOGY KNOWLEDGE AND SKILLS OF STUDENTS.....	46
2.8	IMPROVING NUMERACY FOR INDIGENOUS STUDENTS IN SECONDARY SCHOOLS (INISSS).....	47
2.9	REVISION OF PRE-SELECTION ENGLISH TEST (PSET) .....	49
2.10	DEVELOPMENT OF THE COURSE EXPERIENCE QUESTIONNAIRE (CEQ).....	50
2.11	IMPROVING NUMERACY IN THE MIDDLE YEARS IN VICTORIAN SCHOOLS .....	51
2.12	POLICY IMPROVEMENT IN SCHOOLS IN DEVELOPING COUNTRIES .....	52
<b>TEACHING, TRAINING AND SUPERVISION.....</b>		<b>53</b>
3.1	GRADUATE STUDENT SUPERVISION .....	54
3.2	AWARD TEACHING SUBJECTS .....	56
3.3	1999 NATIONAL ASSESSMENT AWARDS.....	60
<b>1999 FINANCIAL STATEMENT .....</b>		<b>66</b>

## INTRODUCTION

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The Assessment Research Centre (ARC) was established in 1989 at the Royal Melbourne Institute of Technology (RMIT) and relocated to the Faculty of Education at the University of Melbourne in November 1996. Since it began, the Centre has developed a strong research culture and an international reputation for its work in assessment research, development and teaching. In 1997, the Assessment Research Centre, in collaboration with the New South Wales TAFE Assessment Centre, was funded by the Australian National Training Authority (ANTA) to form the Centre for Vocational Assessment Research (CVAR). The Centre was formally recognised by the University of Melbourne and established as a university collaborative Centre in July 1997. From 1999, the links between the NSW TAFE Assessment Centre were relinquished and the Centre continued as an independent body outside the ANTA key centres framework.

The Centre's mission is to promote change and improvement in the fields of assessment, reporting and applied measurement. To achieve this mission, the centre undertakes research, consultancies, development projects, and participates in higher and vocational training in both award and non-award programs.

A national and international program of research, development and teaching has been pursued by the Centre with activities undertaken within Australasia, as well as within Europe, North America, Asia and Southern Africa. Projects have included many research and development studies in schools, higher education, vocational education and industry. Collaborative projects have been established with universities, research organisations and government departments in Australia (with organisations from Queensland, Western Australia, New South Wales, Victoria and Tasmania), France, Vietnam, Southern Africa and the United States, reflecting the truly national and international nature of the Centre's profile and emphasis. Nationally competitive projects were successfully won through competitive tender procedures and the Centre's status as a recognised provider of training for non-award courses was retained. The centre secured two ARC SPIRT grants, in both applied measurement and vocational assessment as well as an additional national NREC research grant in the field of vocational assessment and several other competitive tender research projects in vocational assessment and applied measurement. In addition the Centre proposed with the Centre for Program Evaluation (Department of Education Policy and

Management), the implementation of a new Masters Degree in Assessment and Evaluation. Within this degree the Centre was successful in securing competitive tendering for postgraduate project development (T&LM&ET grant). The funding was received by the Centre to place its interactive web-based program and the performance assessment subject within the new degree as an on-line subject.

The Centre's third annual National Assessment Awards, which recognise excellence in assessment practice, were conducted in September, 1999. Four National Assessment Awards were presented to entrants who developed exemplary assessment practices in VET in Schools, VET (RTOs), Workplace and Classroom (Schools) contexts.

During 1999, the Centre's teaching program attracted local postgraduate students as well as others from Australian states, Hong Kong, Vietnam and Indonesia.

**Professor Patrick Griffin**  
**Director**

## MISSION AND PHILOSOPHY

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The Centre focuses on improving assessment and reporting in education and learning through a four-step process of research, publication, development and training. These provide the framework for strategic planning by the Centre and guide the Centre's core business as well as its link to the university's mission. Research that leads to change, strategically affects change, or sets up the basis for change and improvement in assessment, forms the focus of the Centre's work. International transfer of the research output is regarded as the test of its theoretical strength.

### Research

The Centre focuses on research either in or using assessment. All activities and projects have a research focus and emphasise assessment or evaluation models based on assessment. The Centre's research program is the basic tool for educational change. Assessment research is regarded as a way of testing ideas, of checking the theoretical and practical nature of theories, new approaches and ideas.

### Publication

Through publishing the research outcomes in a variety of media to cater for a wide variety of audiences, the Centre is able to disseminate its ideas and procedures to assist the change process. Publications for each project are listed in this report.

### Development

The development strategies employed by the Centre translate research outcomes into materials that practitioners can evaluate and use. The end user is one who can judge the practicality of research outcomes and their application potential. This is the basis of the change and improvement of practices. Therefore, the development of materials is also given priority in each project.

## **Training**

Each project at the development stage plans a series of seminars, workshops, publications and other means of dissemination. Training also assists research and development to be disseminated. It makes research available for widespread use. This is the technology transfer of the Centre's work.

The Centre conducts a series of short course training programs in assessment research and related fields. Graduate supervision and teaching of award and non-award courses compliments the Centre's research program by having graduates actively participating in, or even managing, components of the Centre's research agenda.

Internal seminars provide graduate students and research associates with the opportunity to present and discuss their activities in an informal, collegial environment. The seminars involve a range of academic and industry/community/education speakers and are publicised outside the university.

## PERSONNEL

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### **Chair of Education (Assessment)**

Professor Patrick Griffin, B.Sc., M.Ed., T.S.T.C., Ph.D., F.A.C.E.

### **Centre Manager**

Ms Janet Treweek

### **Research Fellows**

Dr Kelvin Lai, B.A., Dip.Ed., Adv.Dip.Ed., M.Ed., M.Sc. Ph.D.

Ms Shelley Gillis, B.B.Sc., Grad. Dip. (Applied Psychology).

### **Research Associate**

Dr Jack Keating, B. Econ., Dip.Ed., M.Ed, Ph.D.

### **Research Assistants**

Ms Karen Corneille, B.A. (Statistics), Dip.Ed.

Mr Hamish Coates, B.A.(Hons.), B.Sc.

### **Administrative Assistant**

Ms Sue Griffin

## **Research Interests**

### **Professor Patrick Griffin, Director**

Professor Patrick Griffin holds the Chair in Education (Assessment) and is the Director of the Assessment Research Centre and the Centre for Vocational Assessment Research at the University of Melbourne. He specialises in assessment and reporting and item response model applications to workplace competency assessment, literacy and numeracy profiles and their use and development for standard setting and benchmarking. He has published widely on topics including competency and criterion-referenced assessment, language proficiency assessment, industrial and school literacy and numeracy, profile development, and portfolio assessment.

Telephone: (+61 3) 8344 8205

Email: [p.griffin@edfac.unimelb.edu.au](mailto:p.griffin@edfac.unimelb.edu.au)

### **Ms Shelley Gillis, Research Fellow (Vocational Assessment)**

Shelley Gillis is a vocational assessment researcher. Her major research interests are in the area of competency-based assessment and system design. She has considerable experience with industry training advisory bodies in the design of standards, development of training packages and assessment protocols. She is currently undertaking her Ph.D. studies in the field of competency based assessment and her research examines factors influencing decision making processes in performance based assessments. Shelley's research interests include: assessment decision-making models, criterion referenced assessment, competency based assessment, performance appraisal, performance based assessment, quality assurance mechanisms, assessment system design and management, and assessment of higher order competencies.

Telephone: (+61 3) 8344 8572

Email: [s.gillis@edfac.unimelb.edu.au](mailto:s.gillis@edfac.unimelb.edu.au)

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**Dr Kelvin Lai, Research Fellow (Applied Measurement)**

Kelvin has over 20 years teaching experience in the area of Mathematics and Statistics, having taught at all levels of secondary, as well as pre-university and university levels in both Hong Kong and Australia. Whilst teaching in Hong Kong, Kelvin played an active role in the design of curricula and assessment items for public examinations at the Certificate of Education and the Advanced Level. He was also a statistics consultant for different projects conducted by the Education Department in Hong Kong. Kelvin has participated in research projects conducted by the RMIT and the University of Melbourne, his areas of expertise being statistical analysis, item writing and psychometric modelling. Kelvin's research interests include item response modelling especially multi-component models, parameter estimations, local independence problems, test theory; statistical applications, mathematics problem and mathematics education.

Telephone: (+61 3) 8344 8382

Email: k.lai@edfac.unimelb.edu.au

**Dr Jack Keating, Research Associate (Vocational Assessment)**

Jack is a research associate with the Centre for Vocational Assessment Research. He has worked in three sectors of education and training (schools, VET and higher education). Jack has an active interest in research in all aspects of the VCE and the VET sector in Australia. His work in the area of vocational education in upper secondary education is widely acknowledged. He has worked recently with the CVAR on the development of models of assessment for school-industry programs at the upper secondary level.

Telephone: (+61 3) 8344 6304

Email: j.keating@edfac.unimelb.edu.au

**Ms Karen Corneille, Research Assistant (Applied Measurement)**

Karen's technical skills enable her to work in many areas of assessment and evaluation. She has been involved in projects such as statewide literacy and numeracy testing in Tasmania, a school entrant health questionnaire for all preparatory students in Victoria, and a longitudinal study of the destination of adult literacy students commissioned by DEETYA. Karen has had experience in most aspects of a quantitative focussed research project cycle, including instrument development, sampling, interviewing, data entry, data analysis and report writing. She oversees the use and management of the Centre's optical mark readable scanner (Opscan 5), which is used for the data entry phase of projects and for exam marking. She is also interested in scannable questionnaire design.

Telephone: (+61 3) 8344 0032

E-mail: k.corneille@edfac.unimelb.edu.au

**Mr Hamish Coates, Research Assistant (Applied Measurement)**

After completing a B.A. (Hons) in Philosophy and a B.Sc. with majors in Psychology and Statistics, Hamish has been employed in a range of educational capacities before commencing with the Assessment Research Centre in July 1999. He has been involved in a range of projects including the Literacy Monitoring Program for the Tasmanian Office for Educational Review and a national project directed towards extending the tertiary student Course Experience Questionnaire funded by DETYA. His experience in the development, analysis and reporting of quantitative research projects has been supported by the knowledge of OMR, psychometric and statistics software packages. Hamish is currently undertaking a Masters in Assessment and Evaluation.

Telephone: (+61 3) 8344 5726

Email: h.coates@edfac.unimelb.edu.au

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## Consultants and Casual Staff

### Casual/short term staff

Mrs Audrey Mason  
Mrs Gwenda West  
Ms Julie Waide  
Ms Helen Greenwood  
Ms Kate Ashford  
Ms Margaret Kermodé  
Ms Beryl Pollock  
Ms Judi Champion  
Ms Lyn Beeley  
Ms Elisabeth Lundahl-Hegedus  
Ms To Thi Thu Huong  
Mr John Nicholls  
Mr Low Chi Keen  
Ms Anne Pitman  
Ms Linda Beyer  
Ms Thi Kim Thoa Dinh  
Ms Thi Kim Cuc Nguyen  
Ms Jackie Arnold  
Mr Greg Deakin

### Associates

Ms Pauline Flynn  
Ms Margedd Heliosz  
Mr Phil Holmes Smith  
Dr John Izard  
Mr Graeme Jane  
Mrs Margaret McGregor  
Dr Magdalena Mok  
Dr Patricia Smith  
Ms Bettina Stevenson  
Ms Andrea Bateman  
Mr Geoff Poynter  
Mr Keith Pigdon  
Dr John Geake  
Mr Andy Mak  
Mr Bob Allwell  
Dr Nguyen Phuong Nga  
Mr Xuan Thanh Pham

## RESEARCH PROGRAMS

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The Centre conducts its activities in research and development as well as its teaching/administration programs. Each area has a co-ordinator responsible for project development, proposal preparation and project scheduling and outputs. Program areas are as shown below and details of each project are provided in following sections.

### Research

1. Vocational Assessment Projects
2. Applied Measurement Projects

### Teaching

3. Teaching, Training and Supervision

## 1. Vocational Assessment Projects

- 1.1 Workplace Assessor Training
- 1.2 Validity and Reliability
- 1.3 Development of the National Training Package for Workplace Assessment and Training
- 1.4 Workplace Assessment in School Industry Partnerships
- 1.5 An Integrated Approach to Assessment of Higher Order Competencies
- 1.6 Standardised Output Measures for Vocational Education and Training - A Pairwise Comparison Approach
- 1.7 Factors Influencing Completion Rates of New Apprenticeships and Traineeships
- 1.8 Training Needs Analysis for Information Technology Competencies among Library Staff
- 1.9 Development of Professional Standards for Vietnamese Primary Teachers
- 1.10 Review of Competency Assessment and Training for the Melbourne Taxi Industry

## **2. Applied Measurement Projects**

- 2.1 Tasmanian Years 3 & 7 Literacy and Numeracy Assessment and Monitoring Program
- 2.2 Southern African Consortium for Monitoring in Education Quality (SACMEQ)
- 2.3 Problem Solving in Mathematics
- 2.4 Benchmarks in Asian Studies
- 2.5 Transfer of Profiles to International Settings
- 2.6 Determinants of Literacy and Numeracy among Primary School Children in Vietnam
- 2.7 Development of Key Performance Measures to Monitor Progress in the Information Technology Knowledge and Skills of Students
- 2.8 Improving Numeracy for Indigenous Students in Secondary Schools (INISSS)
- 2.9 Revision of Pre-Selection English Test (PSET)
- 2.10 Development of the Course Experience Questionnaire (CEQ)
- 2.11 Improving Numeracy in the Middle Years in Victorian Schools
- 2.12 Policy Improvement in Schools in Developing Countries

## **3. Teaching, Training and Supervision**

- 3.1 Graduate Student Supervision
- 3.2 Award Teaching Subjects
- 3.3 National Assessment Awards – VET in Schools, VET (RTOs), Workplace and Classroom (Schools)

## **VOCATIONAL ASSESSMENT RESEARCH**

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The Vocational Assessment program comprises a suite of research projects that investigate the practices and processes of both industry based and VET based assessments. The aim of the program is to inform and improve policy and practice in the assessment of competencies and performances. Projects involve the examination of performance based assessment practices that occur within criterion referenced frameworks. They use either standards, profiles, benchmarks or outcome statements and require judgement as well as analysis of evidence.

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## 1.1 Workplace Assessor Training

### Staffing

P. Griffin, S. Gillis

### Summary

The Assessment Research Centre delivers both nationally accredited training in competency-based assessment as well as customised training to meet the individual needs of organisations. The Centre has developed curriculum and training manuals that reflect findings from current research activities and developments in the field. An Assessment Review Board (comprised of industry representatives and ARC personnel) has been established to examine appeals, to moderate assessment decision, and to evaluate the training delivered. Clients in 1999 included the NSW Department of Adult Basic Education, the Australian Emergency Management Institute, State Emergency Services and the University of Melbourne Library.

### Status

On-going

### Funding Source

Fee for training services

### Publications

Gillis, S. and Griffin, P. (1996). *Workplace Assessor Training: Introduction*. Assessment Research Centre, The University of Melbourne: Melbourne.

Gillis, S. and Griffin, P. (Eds.). (1996). *Workplace Assessor Training: Reading Guide*. Assessment Research Centre, The University of Melbourne: Melbourne.

Griffin, P. (1998). *Critical Success Factors for Assessing Learning Competency*. Paper presented at the Performance Measure for Training, The Stamford Plaza, Melbourne, 30 -31 March.

Griffin, P. and Gillis, S. (1999). *Evaluation of Vocational Assessment Processes and Practices*. Referred paper presented at the AARE NZARE Conference, Melbourne, November.

Griffin, P. and Gillis, S. (1997). *The Evaluation of Assessment Processes and Practices*. Paper presented at the NCVET Research Conference. The University of Melbourne: Melbourne.

Griffin, P. and Gillis, S. (1996). *Workplace Assessor Training: Workbook*. Assessment Research Centre, The University of Melbourne: Melbourne.

Griffin, P. and Gillis, S. (1996). *Workplace Assessor Training: Primer*. Assessment Research Centre, The University of Melbourne: Melbourne.

Griffin, P. and Gillis, S. (1996). *Workplace Assessor Training: Workshop Guide*. Assessment Research Centre, The University of Melbourne: Melbourne.

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## 1.2 Validity and Reliability

### Staffing

S. Gillis, A. Bateman

### Summary

A review of international studies examined validity and reliability issues associated with two major forms of assessment - objective tests and performance based assessments. This project examined the relevance of these within a competency based assessment system and the potential for the adoption of both forms of assessment to help ensure that assessments measure both the underpinning knowledge and understanding as well as the skills required for competent performance in the workplace. This review is one of a series of reports commissioned by the National Centre for Vocational Education Research to draw conclusions from the research on key topics in vocational education and training.

### Status

Complete

### Funding Source

National Research Evaluation Committee, National Centre for Vocational Education Research, National Competitive Research Tender.

### Publications

Gillis, S. and Bateman, A. (1999). *Review of Research. Assessing in VET: Issues of Reliability and Validity*. NCVER: Adelaide.

### **1.3 Development of the National Training Package for Workplace Assessment and Training**

#### **Staffing**

P. Griffin, S. Gillis

#### **Summary**

The Assessment Research Centre led a consortium to review the Assessment and Workplace Trainer Competency Standards and to develop the Training Package for Workplace Assessment and Training, for national endorsement by the Australian National Training Authority. The consortium included representatives from the Centre for Vocational Assessment Research (NSW TAFE and The University of Melbourne), the Work Education Research Centre (Central Queensland University, Townsville), the Centre for Research and Learning in Regional Australia (The University of Tasmania), and the Institute of Working Futures (Tasmania). To develop the endorsed components of the package, a national survey was conducted with a sample of purchasers of the standards, all national Industry Training Advisory Bodies and a selection of state ITABs, all state/territory Recognition Authorities and all registered training providers who were accredited to deliver training and/or assessment against the standards. The survey identified changes needed in the Workplace Trainer Competency Standards and the Competency Standards for Assessment. The investigation led to the production of a research report as well as the endorsed components of the Training Package for Workplace Training and Assessment: Revised Competency Standards for Workplace Training and Assessment, Assessment Guidelines and Qualifications.

Under the project management of the Assessment Centre at the School of Mines (Ballarat), the ARC was also involved in developing the non-endorsed components of the Training Package for

outcomes of the project led to the production of a number of assessment, learning and professional development materials to support the endorsed components of the national training package.

### **Status**

Complete

### **Funding Source**

National Assessors and Workplace Trainers Body

Australian National Training Authority, National Competitive Tender

### **Publications**

Gillis, S. and Griffin, P. (1997). *The Assessment Guidelines: endorsed component of the training package for workplace training and assessment*. Assessment Research Centre, The University of Melbourne: Melbourne.

Gillis, S., Griffin, P., Catts, R. and Falk, I. (1999). *The Competency Standards for Workplace Assessment and Training: a needs assessment study*. Refereed paper presented at the AARE NZARE Conference, Melbourne, November.

Gillis, S., Griffin, P., Catts, R. and Falk, I. (1998). *A Review of the Competency Standards for Assessment and Workplace Training*. Paper presented at the Australian Vocational Education and Training Research Association (AVETRA) National Conference, the University of Technology, Sydney, 16-17<sup>th</sup> February.

Gillis, S., Griffin, P., Catts, R. and Falk, I. (1997). *Draft Competency Standards for Workplace Training and Assessment: endorsed component of the training package for workplace training and assessment*. Assessment Research Centre, The University of Melbourne: Melbourne.

Gillis, S., Griffin, P., Catts, R., Falk, I. and Bowles, M. (1997). *Review of the Assessment and Workplace Trainer Competency Standards: Research Report*. Assessment Research Centre, The University of Melbourne: Melbourne.

Griffin, P., Gillis, S., Catts, R. and Falk, I. (1998). Cracks in the Foundation? Researching the content and use of the Workplace Trainer and Assessment Competency Standards. *Transfer VET Research & Practice* 3(2), 8-11.

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## 1.4 Workplace Assessment in School Industry Partnerships

### Staff

S. Gillis, J. Keating, P. Griffin

### Summary

The Centre was commissioned by the Australian Student Traineeship Foundation to examine and trial workplace-based assessment approaches within the context of industry and education assessment and accreditation frameworks. The research investigation conducted 22 case studies nationally across three industry sectors: office, hospitality and metals engineering. The case studies involved examining how secondary students who are undertaking vocational education and training are assessed for workplace learning. The outcome of Stage 1 led to case study reports of models of successful practice. The research investigation then used this information in Stage 2 of the study to develop assessment materials and procedures to assist other teachers and employers to conduct assessments of students' vocational skills and knowledge. These procedures and materials were then trialed in 1999 across a number of schools and workplaces throughout Australia and across a number of different industries (office, hospitality and metals industries).

### Status

Complete

### Funding Source

The Australian Student Traineeship Foundation

## **Publications**

Gillis, S. and Griffin, P. (1999). *Assessment in School Industry Programs: Teacher Guidelines*. Assessment Research Centre: The University of Melbourne.

Gillis, S. and Griffin, P. (1999). *Assessment in School Industry Programs: Workplace Supervisor Guidelines*. Assessment Research Centre: The University of Melbourne.

Gillis, S. and Griffin, P. (Editors) (1999). *Assessment in School Industry Programs: Exemplar Assessment Tasks and Procedures*. Assessment Research Centre: The University of Melbourne.

Gillis, S., Griffin, P. and Keating, J. (1999). *Research Report: Best Practice Models of Assessment in VET in Schools Programs*. Assessment Research Centre: The University of Melbourne.

Gillis, S. and Keating, J. (1998). *Best Practice in Assessment in School Industry Programs*. Paper presented at the National VETNetwork Conference: Changing Work – Changing Society, Adelaide.

Gillis, S., Keating, J. and Griffin, P. (1998). *Best Practice in Assessment in School Industry Programs: Research Report, Stage 1 & 2*. Assessment Research Centre: The University of Melbourne.

Griffin, P. (1998). Vocational Education: Education and Work. *Directions in Education*, 7(8), 2-3.

Griffin, P. and Gillis, S. (1998). Competency Based Assessment of Structured Workplace Learning. *VOCAL: The Australian Journal of Vocational Education and Training in Schools*, 1(1), 5-8.

Keating, J. (1999). *Assessment in School Industry Programs: Policy Directions*. Assessment Research Centre: The University of Melbourne.

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Keating, J. and Gillis, S. (1998). *Workplace Assessment in School Industry Partnerships*. Paper presented at the Annual Conference of the Australian Association for Research in Education, Adelaide.

## **1.5 An Integrated Approach to Assessment of Higher Order Competencies**

### **Staffing**

P. Griffin, S. Gillis

### **Summary**

The Assessment Research Centre was commissioned by the Australian Emergency Management Institute to explore a range of design features for the establishment of a national competency based assessment system to support the emergency management competency standards that are within the Public Safety Training Package. The project explored issues associated with assessment of higher order competencies, synthesising assessment information, identifying appropriate cut-points for competent/not yet competent decisions and controlling for the influence of differing perceptions of workplace observers. This project led to the successful application for an Australian Research Council Special Program for Industry Research Training (SPIRT).

### **Status**

On going

### **Funding Source**

Australian Emergency Management Institute,  
Australian Research Council

**Publications**

Griffin, P. and Gillis, S. (1999). *Assessing Higher Order Vocational Competencies: a multi source approach*. Referred paper presented at the AARE NZARE Conference, Melbourne, November.

Griffin, P. and Gillis, S. (1999). *Discussion Paper: The establishment of a competency based assessment system for emergency management*. Assessment Research Centre: The University of Melbourne.

## **1.6 Standardised Output Measures for Vocational Education and Training - A Pairwise Comparison Approach**

### **Staff**

P.Griffin, S.Gillis

### **Summary**

The Assessment Research Centre at The University of Melbourne was contracted by the Australian National Training Authority (ANTA) to conduct a pilot research project that will test the feasibility of constructing a standardised output measure for Australia's vocational education and training system. This project involved an assessment by expert panels of the "difficulty" attributed to individual units of competency within a small number of training packages. The ratings of each expert panel member were collated and analysed using a statistical theory called "Pairwise comparison" or "Rasch modelling". The analysis, to be completed in May 2000 will determine a "difficulty" value for each unit of competency and provide the basis for determining a standardised output measure.

### **Status**

Current

### **Funding Source**

Australian National Training Authority

### **Publications**

Griffin, P. (1999). *Comparing Workplace Competencies: establishing a modelling process*. A commissioned discussion paper for the Australian National Training Authority. Assessment Research Centre: The University of Melbourne.

Griffin, P. (1999). *Valuing Vocational Education and Training Outputs: a standardised output measure*. A project brief for the Australian National Training Authority. Assessment Research Centre: The University of Melbourne.

## **1.7 Factors Influencing Completion Rates of New Apprenticeships and Traineeships**

### **Staffing**

P.Griffin, S.Gillis

### **Summary**

The Assessment Research Centre at The University of Melbourne has been commissioned by the National Centre for Vocational Education Research (NCVER) to investigate the influence of the home, workplace and training environments on apprentice and trainee attrition and retention rates in three industry sectors: hospitality, electronics and automotive. The pilot study will be undertaken over a 10 month period and will identify factors influencing attrition, retention and completion rates amongst apprenticeships and traineeships in hospitality, automotive and electrical/electronic industries. It will also identify strategies to determine 'at risk' trainees/apprentices. The study will involve surveying all year levels of apprentices in the first data collection phase for each course investigated.

### **Status**

Current

### **Funding Source**

National Research Evaluation Committee, National Centre for Vocational Educational Research.

**Publications**

Griffin, P. and Gillis, S. (1999). *Factors Influencing Completion Rates of New Apprenticeships: Interim Report*. Assessment Research Centre: The University of Melbourne.

## **1.8 Training Needs Analysis for Information Technology Competencies among Library Staff**

### **Staff**

S.Gillis

### **Summary**

The Assessment Research Centre was commissioned by The University of Melbourne Library to identify, customise and develop information technology standards for staff and to develop appropriate assessment tasks for these standards. As part of this project, a small number of staff were trained in competency based assessment. The project will use CompAssess for recording and monitoring competency assessments. CompAssess calibrates the data using multifaceted Rasch procedure to take mathematically modelled observations for a person and for each competency across candidates before calculating an overall assessment for each person by competency. The system is designed for multi site operation to allow administrators to ensure that common procedures and information are used across sites and that all assessors are maintaining common standards. The end product will be the development and implementation of a system, which can identify and rationalise information technology training needs for library staff.

### **Status**

Current

### **Funding Source**

Baillieu Library, The University of Melbourne

## **Publications**

Gillis, S. (1996). *Internet-based: Australia's on-line recording and monitoring system for industry competency based assessment*. Paper presented at the Comprehensive Adult Student Assessment System Summer Institute on Assessment, San Diego, Ca.

Gillis, S. and Griffin, P. (1996). *Internet-based: On-line recording and monitoring of competency assessments assisting industry penetration*. Assessment Research Centre, The University of Melbourne: Melbourne.

Griffin, P. (1997). An interactive on-Line assessment system for outcomes based assessment for special educators: Learning difficulties, disabilities and resource teaching. Selected papers from the Australian Resource Educators Association (AREA),1996 Conference, Melbourne, 11-26.

Griffin, P., Gillis, S. and Jane, G. (1998). CompAssess: an Overview:  
<http://www.compassess.com.au/compassess/>

## **1.9 Development of Professional Standards for Vietnamese Primary Teachers**

### **Staff**

P. Griffin, G. Poynter, Nguyen Phuong Nga

### **Summary**

This project funded by the World Bank is one of eight being undertaken in the Primary Education Project. The project sought to develop professional standards for primary teachers in Vietnam and then develop guidelines for their implementation. The process used included a mixture of surveys and workshops throughout Vietnam. Workshops were held with policy makers, academics and researchers, teachers and school principals. Visits to schools were also conducted to ascertain the acceptance by teachers in the school setting.

### **Status**

Current

### **Funding Source**

World Bank, Primary Education Co-ordination Unit, Ha Noi

## **1.10 Review of Competency Assessment and Training for the Melbourne Taxi Industry**

### **Staff**

P. Griffin, S. Gillis

### **Summary**

The Centre was commissioned by the Victorian Taxi Directorate to review the training and assessment practices currently in operation within Melbourne. The purpose of this research was to review the training and assessment of Melbourne taxi drivers with the view of recommending changes that could deliver a world class taxi service.

### **Status**

Complete

### **Funding Source**

Victorian Taxi Directorate

### **Publications**

Griffin, P. and Gillis, S. (1998). *The Melbourne Metropolitan Taxi Industry: a review of driver training and assessment*. Assessment Research Centre, The University of Melbourne: Melbourne.

## **APPLIED MEASUREMENT RESEARCH**

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This program involves a range of research development and teaching projects. These focus on psychometrics, test development, performance and competency assessment as they are applied in schools, higher education, TAFE and workplaces. Projects are undertaken at local, state, national and international levels. The goal of the program is to identify ways of improving assessment that involves instrument development and measurement theory.

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## **2.1 Tasmanian Years 3 & 5 Literacy and Numeracy: Assessment and Monitoring Program**

### **Staffing**

P. Griffin, K. Lai, K. Corneille, P. Flynn

### **Summary**

As part of the National Benchmarking Project in Literacy and Numeracy, the Centre was engaged by the Office for Educational Review and the Catholic Education Office in Tasmania to undertake state-wide testing of literacy achievement for Years 3 and 5.

Approximately two hundred schools participated in the testing program, with over 6300 Year 3 students and almost 6200 Year 5 students sitting the tests.

The tests addressed outcomes selected from the Education Department's Key Intended Literacy Outcomes (KILOs). Item writers developed items that were panelled and piloted for the tests. Trials were conducted in Victorian country schools.

Trained markers scored all open-ended items and scores were entered onto the student's OMR answer sheet. After the answer sheets were scanned, the data was calibrated using the Rasch Model software QUEST. This enabled examination of student and item performance from which cut off scores were determined for each of the achievement levels within each KILO strand.

### **Status**

Complete

### **Funding Source**

The Office for Educational Review, Department of Education, Tasmania

### **Publications**

Callingham, R. and Griffin, P. (1999). Large scale assessment: the importance of contextual information. In K. Baldwin & J. Roberts (Eds.), *Mathematics the Next Millennium*. Proceedings of the 17<sup>th</sup> Biennial Conference of the Australian Association of Mathematics Teachers (AAMT): Adelaide. January 11-15, pp. 114-124.

Callingham, R. and Griffin, P. (1998). *Constructed response items in large scale assessment*. Paper presented at the MERGA Conference, Belfast, September.

Callingham, R. and Griffin, P. (1998). *Internet based assessment*. Paper presented at the MERGA Conference, Belfast, September.

Callingham, R. and Griffin, P. (1997). *Large-scale assessment: the importance of contextual information*. Paper presented at the Annual Conference of the Australian Association for Research in Education, Brisbane, November.

Callingham, R. and Griffin, P. (1997). *Assessing student performance via the Internet*. Paper presented at the annual conference of the Australian Association for Research in Education, International Hilton Hotel, Brisbane, November 30 - December 4.

Griffin, P. (1998). *Assessing and monitoring students*. Paper presented at the Mathematical Association of Tasmania Inc. Annual Conference.

Griffin, P. (1998). *Assessment and reporting in a developmental assessment framework*. IARTV Seminar Series, (No. 75 Ed.). Incorporated Association of Registered Teachers of Victoria: Melbourne.

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- Griffin, P. (1997). *Achievement monitoring in Tasmania*. Report to the Office for Educational Review, Hobart. Assessment Research Centre, The University of Melbourne: Melbourne.
- Griffin, P. (1997). *A new assessment of the numeracy standards of Tasmanian students has come up with a positive result*. Interview with Professor Patrick Griffin on the Morning Program of Radio 7ZR, Broadcast Transcript, Media Monitors Tasmania Pty Ltd, Hobart, November 27.
- Griffin, P. (1997). *Year 9 Numeracy Assessment and Monitoring Program - Task 1: Unassisted task*. Assessment Research Centre, The University of Melbourne and Office for Educational Review, Hobart.
- Griffin, P. (1997). *Year 9 Numeracy Assessment and Monitoring Program - Task 2: Calculator assisted task*. Assessment Research Centre, The University of Melbourne and Office for Educational Review, Hobart.
- Griffin, P. (1997). *Year 9 Numeracy Assessment and Monitoring Program - Task 3: Constructed response*. Assessment Research Centre, The University of Melbourne and Office for Educational Review, Hobart.
- Griffin, P. (1997). *Year 9 Numeracy Assessment and Monitoring Program - Task 4: Extended Task: An analysis of a daily newspaper*. Assessment Research Centre, The University of Melbourne and Office for Educational Review, Hobart.
- Griffin, P. (1997). *Year 9 Numeracy Assessment and Monitoring Program - Teachers' Manual*. Assessment Research Centre, The University of Melbourne and Office for Educational Review, Hobart.
- Griffin, P. (1997). *Year 9 Numeracy Assessment and Monitoring Program - Assessment of Numeracy Investigative Task*. Annual meeting of the Tasmanian Mathematical Association, Burnie, Tasmania.

Griffin, P. and Callingham, R. (1998). *The dimensions of numeracy in a large scale testing program*. Paper presented at the annual conference of the Australian Association for Research in Education, International Hilton Hotel, Brisbane, November 30 - December 4.

Griffin, P. and Callingham, R. (1997). *Dimensions of numeracy in a large scale testing program*. Paper presented at the annual conference of the Australian Association for Research in Education, International Hilton Hotel, Brisbane, November 30 – December 4.

Griffin, P. and Callingham, R. (1997). *Use of the ARC Learning Profile Scales (ALPS) software and reports*. Office for Educational Review, Department of Education, Community and Cultural Affairs: Hobart.

Griffin, P. and Callingham, R. (1997). *Using the ALPS software*. Office of Educational Review, Department of Education, Community and Cultural Affairs: Hobart.

Griffin, P., Callingham, R. and Smith, A. (1998). *Monitoring change in numeracy over a 20-year period*. Paper presented at the annual conference of the Australian Association for Research in Education, International Hilton Hotel, Brisbane, November 30 - December 4.

Griffin, P. and Corneille, K. (1998). *Tasmanian Year 3 and 7 Literacy and Numeracy: Assessment and Monitoring Program*. Report to the Office for Educational Review, Hobart. Assessment Research Centre, The University of Melbourne: Melbourne.

Griffin, P. and Corneille, K. (1998). *Tasmanian Year 3 and 7 Literacy and Numeracy: Assessment and Monitoring Program*. Report to the Tasmanian Catholic Education Office. Assessment Research Centre, The University of Melbourne: Melbourne.

Griffin, P., Corneille, K. and Lundahl-Hegedus, E. (1997). *Student numeracy outcomes in the Tasmanian Year 9 Assessment and Monitoring Program*. Assessment Research Centre, The University of Melbourne: Melbourne.

John, B. (1997). Numbers Stack up Well for Teachers. *Mercury*. Hobart, Tasmania.

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Le, Thi Kim Anh (1998). Comparison of two methods of setting cut scores for benchmarks in Tasmanian numeracy Year 9 tests. Unpublished minor thesis for the Masters Degree. Faculty of Education, The University of Melbourne.

## **2.2 Southern African Consortium for Monitoring in Education Quality (SACMEQ)**

### **Staffing**

P. Griffin (with K. Ross [UNESCO IIEP, Paris]; N. Postlethwaite [Hambourg]; F. Voigts [UNESCO, Harare])

### **Summary**

The project established procedures to link the literacy assessments in five Southern African nations - Zimbabwe, Zanzibar, Mauritius, Namibia and Zambia. A training project was offered to participants in the UNESCO International Institute for Educational Planning in Paris. Subsequent data analysis led to further UNESCO projects in Santiago and South Africa. A second stage of the project is planned for 1999-2001.

### **Status**

Current

### **Funding Source**

UNESCO

### **Publications**

Griffin, P. (1998). *An Introduction to the Rasch model*. Report prepared for the Latino Americano de Evaluacion de la calidad de la Education. Santiago, Chile.

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Griffin, P. (1997). *Introduction to the Rasch model*. A report for the Latin American Assessment Project. Assessment Research Centre, The University of Melbourne: Melbourne.

Griffin, P. (1997). *Introduction to the Rasch Model: developing equivalent scores from a common item pool*. UNESCO-International Institute for Educational Planning, Paris.

Griffin, P. (1997). Monitoring is an international phenomenon. *Directions in Education*, 6(7), p.3.

The Southern Africa Consortium for Monitoring Educational Quality. (1998). *Grade 6 study of reading and mathematics. Pupil reading test (Form A)*. IIEP: Paris.

The Southern Africa Consortium for Monitoring Educational Quality. (1998). *Grade 6 study of reading and mathematics. Pupil reading test (Form B)*. IIEP: Paris.

The Southern Africa Consortium for Monitoring Educational Quality. (1998). *Grade 6 study of reading and mathematics. Teacher reading test*. IIEP: Paris.

The Southern Africa Consortium for Monitoring Educational Quality. (1998). *Grade 6 study of reading and mathematics. Pupil mathematics test (Form A)*. IIEP: Paris.

The Southern Africa Consortium for Monitoring Educational Quality. (1998). *Grade 6 study of reading and mathematics. Pupil mathematics test (Form B)*. IIEP: Paris.

The Southern Africa Consortium for Monitoring Educational Quality. (1998). *Grade 6 study of reading and mathematics. Teacher mathematics test*. IIEP: Paris.

## **2.3 Problem Solving in Mathematics**

### **Staffing**

K. Lai, P. Griffin, K. Corneille

### **Summary**

The project is undertaken in collaboration with the North Shore Coaching and Development Centre and its colleges. Items along the strands of Numeration, Measurement, Space, Chance and Data were designed by the Assessment Research Centre to test the problem-solving skills of pupils at Years 3, 4 and 5 in both Melbourne and Sydney. The items assessed the pupils' performance in different key steps in the problem-solving process in situations familiar and also unfamiliar to the pupils. These items were then scored by the Assessment Research Centre. Reports on the performance together with constructive feedback were given to each participant after the competition.

### **Status**

On-going

### **Funding Source**

North Shore Coaching and Development Centre

## **2.4 Benchmarks in Asian Studies**

### **Staffing**

P. Griffin, H. Coates

### **Summary**

This project aims to develop for the Asian Education Foundation, a series of instruments to assess knowledge and attitudes related to Asian Culture and to establish Benchmarks at a national level for those studies.

### **Status**

Current

### **Funding Source**

DETYA and Asian Education Foundation

## **2.5 Transfer of Profiles to International Settings**

### **Staffing**

P. Griffin, P. Smith

### **Summary**

This project investigates the transportability of the Literacy, ESL and Interview test of ESL as profiling mechanisms to the international contexts. It further seeks to develop new material in response to findings. In addition, the program aims to extend the work of the Literacy Profile Scales and develop ways of reporting usefully to stakeholders, especially parents, in a multicultural society, and to facilitate the reporting process providing a useful account of how literacy is developing in a school. Profiles for Special Learners are being developed to assist teachers with children who have reading difficulties and with Reading Recovery programs in particular. This project also proposes to develop scales for children in ESL and to publish for the US school system.

### **Status**

Current

### **Funding Source**

Core Funding

### **Publications**

Griffin, P. (1998). *The ARC Learning Profile Scales (ALPS): A computer based developmental assessment reporting program*. Assessment Research Centre, The University of Melbourne: Melbourne.

Griffin, P. (1998). *Profiles and reporting in a developmental assessment framework*. IARTV: Melbourne.

Griffin, P. (1998). *Profiles, origins and development*. Paper presented at the National Developmental Assessment Conference, Melbourne.

Griffin, P. (1997). *The ARC Learning Profiles*. Assessment Research Centre, The University of Melbourne: Melbourne.

Griffin, P. and Callingham, R. (1997,1998). *Using the APLS Software*. Office of Educational Review, Department of Education, Community and Cultural Affairs: Hobart.

Smith, P. (1997). *Down the track with profiles*. Reading Association of Ireland Conference, Dublin, Ireland, September.

Profiles web page at - <http://www.educationprofile.com.au>

## **2.6 Determinants of Literacy and Numeracy among Primary School Children in Vietnam**

### **Staffing**

P. Griffin (with staff of the National Institute for Educational Science – Ha Noi)

### **Summary**

This project investigates the school, home and community factors influencing literacy and numeracy of Vietnamese primary school children. Tests in mathematics and Vietnamese language have been developed for children in years 3 and 5. Samples have been drawn from 5 provinces (Ha Noi, Hien Bai, Thanh Hon, Quang Nam, Vinh Long). Questionnaires were developed for head teachers, teachers and students. Tests of mathematics (number, chance problem solving and measurement) and Vietnamese (reading, language structure and writing) were linked across years 3 and 5 to estimate growth. The project is the first phase of a longitudinal project that aims to monitor achievement levels and provide policy advice to the Ministry of Education and Training, within the World Bank Primary Education Project.

### **Status**

Current

### **Funding Source**

World Bank, Primary Education Co-ordination Unit, Ha Noi

### **Publications**

Griffin, P. (1998). *Vietnamese national study of student achievement in mathematics and Vietnamese*. National Institute for Education and Science: Hanoi.

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Tran, Kieu and Griffin, P. (1999). *The determinants of achievement in Vietnam primary schools*.  
Paper presented at the annual conference of the International Council for School Effectiveness,  
Institute of Education, Hong Kong, January.

## **2.7 Development of Key Performance Measures to Monitor Progress in the Information Technology Knowledge and Skills of Students**

### **Staffing**

P. Cuttance (University of Sydney), P. Griffin

### **Summary**

This project will provide consultants with demonstrated consultancy and research skills; expertise and capacity to research and advise the NEPM Taskforce (NEPMT) on relevant issues associated with national reporting on the information technology knowledge and skills of Australian students; an understanding of the current developments in education provision; and international experience and knowledge of performance measurement and reporting.

The goal of this project is to provide advice to MCEETYA through the NEPMT about strategies that can be implemented to provide appropriate nationally comparable outcomes of schooling in relation to Information Technology Skills and Knowledge (ITSK) within the context of the National Goals for Schooling in the Twenty-First Century. Such advice would take account of the costs and benefits to school authorities and systems of the collection of information against any proposed measures and would also consider processes for establishing baseline data against which future changes can be monitored.

### **Status**

Current

### **Funding Source**

DETYA

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## **2.8 Improving Numeracy for Indigenous Students in Secondary Schools (INISSS)**

### **Staffing**

P. Griffin, K. Corneille, R. Callingham (University of Tasmania), V. Nicholson (Tasmanian Education Department)

### **Summary**

The major objective of the INISSS program in Tasmania is to improve numeracy outcomes for all students (particularly Aboriginal students), in the middle years of schooling through a program of intensive teacher professional development. The professional development is based around the use of Mathematical Problem Solving Task Centres that had been successfully used with indigenous students elsewhere. Student assessment tasks had a degree of open-endedness, provided concrete materials for manipulation and all held the possibility of further exploration.

To examine the effectiveness of the program both qualitative and quantitative focussed strategies were used to measure students' numeracy outcomes. Teachers from the nineteen participating high schools assessed student performance on the tasks; over 1900 students were involved. OMR sheets were used to record students' scores. OMR Questionnaires were also distributed to teachers and students to ascertain learning environments and attitudes; whereby links between these measures and performance can be examined more closely.

The Assessment Research Centre was involved in the study design, data processing and analysis. Further phases of the project will be carried out in 2000.

### **Status**

Current

### **Funding Source**

Aboriginal Education Unit, Tasmania Education Department  
(Indigenous Education Strategy Implementation Program)

### **Publications**

Callingham, R. and Griffin, P. (1999). *Developing performance assessment task in mathematics: a case study*. In J.M. Truran & K.M. Truran (Eds.), *Making the Difference*. Proceedings of the 22<sup>nd</sup> Annual Conference of the Mathematics Education Research Group of Australasia. MERGA: Adelaide, SA, 4-7 July, pp.135-142.

Callingham, R., Griffin, P. and Corneille, K. (1999). *Using performance assessment tasks to assess numeracy outcomes: the INISSS project assessment process*. Paper presented at the annual conference of the Australian Association for Research in Education, November.

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## **2.9 Revision of Pre-Selection English Test (PSET)**

### **Staffing**

K.Corneille, G. Deakin

### **Summary**

The Assessment Research Centre was engaged to revise two versions of an English test used for overseas student selection. Trials had been conducted of expanded versions of the existing tests and item response theory was used to select items which were high in discrimination, maintaining format and integrity so that the new tests could be aligned with the old. The latter aspect was needed as cut scores for ability estimates (logits) were to remain the same, yet raw scores would now not be comparable due to the increased number of items.

### **Status**

Complete

### **Funding Source**

Language and Technical Services Pty. Ltd.

## **2.10 Development of the Course Experience Questionnaire (CEQ)**

### **Staffing**

P. Griffin, H. Coates (Assessment Research Centre); C. McInnis, R. James (Centre for the Study of Higher Education)

### **Summary**

The CEQ measures student satisfaction with the quality of university teaching and learning and has been conducted on a national basis for the past six years. In response to concerns expressed within the higher education sector this project was commissioned to identify broader aspects of the student experience that the CEQ might measure to compliment the existing instrument.

Following preliminary research and stakeholder consultation, a pilot survey was developed and locally tested. Modification of this instrument was guided by psychometric analyses, and the item pool was refined for subsequent national trialling. The project Advisory Committee gave permission for the Assessment Research Centre to conduct on site in addition to mailout data collection. The ARC is currently undertaking analyses of trial data and in collaboration with Centre for Study of Higher Education (CSHE) is making final decisions regarding the nature of the instrument. In addition to a number of new items and scales for use with the current CEQ, a project report and a series of journal articles will be produced.

### **Status**

Current

### **Funding Source**

Commonwealth Department of Education, Training and Youth Affairs (DETYA)

## **2.11 Improving Numeracy in the Middle Years in Victorian Schools**

### **Staffing**

D. Seimon (RMIT), M. Stephens (VBOS), P. Griffin.

### **Summary**

The project aimed to identify intervention strategies for teachers of numeracy in the middle years and to evaluate effectiveness of intervention.

### **Status**

Current

### **Funding Source**

Department of Education and Training, Victoria

## **2.12 Policy Improvement in Schools in Developing Countries**

### **Staffing**

K. Ross (UNESCO, IIEP), N. Postlethwaite (Hambourg), P. Griffin

### **Summary**

This project aims to develop skills in planning divisions of ministries of education in developing countries. The project operates training program in the International Institute for Educational Planning in Paris and provides the same training program in other centres where personnel from developing countries can congregate.

### **Status**

Current

### **Funding Source**

UNESCO (IIEP)

### **Publications**

Griffin, P. (1999). *Introduction to the Rasch model*. Assessment Research Centre, The University of Melbourne: Melbourne.

## **TEACHING, TRAINING AND SUPERVISION**

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### 3.1 Graduate Student Supervision

#### *Doctorate*

1. Chan Pong Lai                      The application of the Rasch model to a multi component mathematics problem
2. Lynette Martin                    Factors affecting the implementation of primary school language other than English programs
3. Shelley Gillis                      Decision making in workplace competency assessment
4. To Thi Thu Huong                Predictive validity of the IELTS in Vietnam
5. Bernadette Pierce                Gifted underachieving boys in secondary school – knowledge rich domain
6. Ha Tak Shing                      Assessing problem solving skills in physics
7. Nick Stone                         Assessing effects of organisational culture
8. Ian Hood                            Assessing electro-technology competencies using remote procedures
9. Maurice Curwood                The effect of implementation of competency based assessment in industry
10. Wally Fung                        Assessment of beginning teacher competencies
11. Phillip Holmes Smith            Investigating the use component of the concerns-based adoption model (CBAM): Developing a level of use questionnaire (LOUQ)
12. Rosemary Callingham           Aspects of Numeracy In Secondary School
13. Nguyen Thi Kim Cuc            Relationships between family and peers on school drop outs in Vietnam
14. Hilary Timma                      Assessment and the individual in the workplace

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***Masters Degree (Research)***

- |                    |   |
|--------------------|---|
| 1. Susan Casey     | The development and validation of a language placement test |
| 2. Peter Congdon   | Rater reliability in performance assessment                 |
| 3. Duong Mong Ha   | University entrance requirements in Vietnam                 |
| 4. Deborah Hann    | Models of competency assessment                             |
| 5. Pham Xuan Thanh | Quality assessment in higher education in Vietnam           |
| 6. Craig Dullard   | Assessment of accelerated progress students in high school  |

***Masters Degree (Coursework)***

- |                   |   |
|-------------------|---|
| 1. Le Thi Kim Anh | Minor thesis: Comparison of two methods of setting cut scores for benchmarks in Tasmanian Numeracy Year 9 Tests |
| 2. Hamish Coates  | Minor thesis: Testing the Efficacy of using Computers as Learning Tools   |
| 3. Andrea Bateman | Developing standardised output measures for VET: an application of the Rasch model for measuring competencies   |
| 4. Dinh Thoa      | Assessment in early childhood in Vietnam  |
| 5. Wendy Starky   | Assessment of library staff IT competencies   |
| 6. Wendy Bodey    |   |

***Post Graduate Students completing degrees in 1999***

- |                   |   |
|-------------------|---|
| 1. Chan Pong Lai  | The application of the Rasch model to a multi component mathematics problem                 |
| 2. Lynette Martin | Factors affecting the implementation of primary school language other than English programs |

## 3.2 Award Teaching Subjects

### **Master of Assessment & Evaluation and Post Graduate Diploma in Assessment & Evaluation**

The Master of Assessment & Evaluation and the Post Graduate Diploma in Assessment & Evaluation are comprehensive specialist training programs. They provide opportunities for both local and overseas students to develop higher order skills and conceptual understanding in these areas. They are suitable for personnel employed in educational, government and industrial organisations who want to take a leadership role in the field of assessment and evaluation.

The course aims to produce graduates who are able to design and manage assessment and evaluation programs at a high level, to make effective use of associated writings and research and to develop superior knowledge and understanding of assessment and evaluation theory and practice.

Delivery of the courses is essentially the combined efforts of the Assessment Research Centre and the Centre for Program Evaluation which are both located within the Faculty of Education. The program is made up of three strands which reflect the latest theoretical understanding, research methodology and analytical tools available in the field.

The assessment specialist strand combines theoretical and practical studies that will enable students to acquire state-of-the-art skills in the design, development and application in assessment for purposes related to learning, credentialing, selection and policy development.

The evaluation strand provides opportunities for students to come to grips with the latest evaluation concepts and skills, and to undertake and/or manage policy and program evaluation studies.

The combined assessment and evaluation strand provides opportunities for students to acquire specialised methodological skills in assessment and evaluation. The generic nature of these skills will find natural applications in the social, political and behavioural sciences.

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It is a requirement of both courses that a student complete one subject from the combined assessment and evaluation strand, and at least one subject from either the evaluation or assessment strands.

The assessment specialists strand is delivered by staff of the Assessment Research Centre. The subjects include:

**Assessment Design and Analysis (476-661)**

This subject is intended to provide an understanding of, and practical skills in, assessment design, analysis, reporting and monitoring. Topics include assessment strategies, assessment instrument design; domain specification & definition; test preparation, assessment task development; scoring approaches, item response theory analysis, application, and interpretation of item response and classical analyses of data (one, two and three parameter models); using data to improve instruction; designing data bases, item banks, adaptive testing, assessment systems and test equating.

**Competency and Performance Assessment (476-662)**

This comprises a study of performance and competency-based assessment that can be applied to a variety of contexts including schools, industry, higher education and further education.

The subject will explore current policy directions and implications for assessment practitioners including the notion of the Australian Recognition Framework, Training Packages, recognition of prior learning and quality assurance. Strategies for competency-based assessment will be explored and students will acquire skills in designing assessment processes and instruments for measuring cognitive, affective and psychomotor competencies. Technical issues of interpretation and application of performance that influence the decision making process will be explored. Non performance related factors influencing the assessment and reporting process will also be examined. The measurement model will be applied to performance assessment by the application of item response theory (IRT) where benchmarks, profiles and standards can be established and validated. IRT will also be applied to review the validity and reliability of the assessment tasks and to identify further training needs of candidates and assessors.

### **Advanced Measurement and Psychometrics (476 664)**

This subject is intended to provide an advanced understanding of item response modelling and psychometric theory. The subject will require advanced skills in assessment design and analysis, test equating and interpretation, and will examine item response theory from an advanced perspective, including the development of single and multiple parameter models, their specification, estimation and evaluation. This unit will focus on procedures for calibration and banking tasks based on rating and criterion referenced scales, constructed response and judgement based assessments as well as multiple choice tasks. Computer applications linked to item response models will include test equating, adaptive and on-line assessments. A high level of statistical and mathematical skills would be required.

### **Educational Measurement, Assessment and Evaluation (476-694)**

This subject provides an overview of the nature of educational measurement, assessment and evaluation by contrasting various perspectives, purposes, models and procedures. It provides an introduction from a conceptual and practical viewpoint, covering such areas as: classical test theory; test bias, reliability and validity; test and assessment task construction; normative and criterion referenced assessments; formative, summative and diagnostic assessment; item response theory; and the design implementation, analysis and evaluation of assessment procedures. Recent international trends will be used to provide a conceptual basis for critical evaluation of some contemporary initiatives in the field. Both qualitative and quantitative aspects of measurement will be addressed and emphasis will be placed on the appreciation of quality measurement through practical exercises.

### **Assessment and Reporting for Student Learning (476-695)**

This subject focuses on the relationship between learning and assessment procedures and how, by building on this relationship, both learning and assessment may be improved. It will begin with an exploration of the varying purposes, principles and policies of assessment and reporting and consider trends and perspectives at local, systemic and national levels. Innovations in assessment and reporting, such as authentic, profiling and responsive and portfolio assessment will be investigated and evaluated in terms of their congruence with the promotion of student learning

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through the delivered curriculum. Shifting conceptions of validity and reliability that incorporate notions of equity, curriculum fidelity, manageability and public credibility will be examined. Ways that assessment practices can be utilised to strengthen the links between improved learning outcomes and quality and excellence will also be examined. Students will then apply the lessons of their critical evaluation of assessment and reporting to the design and evaluation of a particular instance of assessment and reporting of an educational program within their own context.

### **3.3 1999 National Assessment Awards**

Four National Assessment Awards were presented to entrants who developed exemplary assessment practices in Industrial, Vocational Education & Training, Schools and VET in Schools contexts. Each award recognised the important contributions made by assessment practitioners, schools, training institutions and enterprises to building a world-class set of assessment practices.

The awards, which aim to encourage excellence in assessment, are the result of collaboration between the University of Melbourne (Centre for Vocational Assessment Research and Assessment Research Centre) and schools, industry and assessment bodies both nationally and internationally.

The winners for each category were:

1. The National Assessment Award for VET in Schools was awarded to Newstead College, Tasmania.
2. The National Assessment Award for VET (RTOs) was awarded to Bendigo Regional Institute of TAFE, Victoria.
3. The National Assessment Award for Workplace was awarded to Department of Defence – Canberra, ACT.
4. The National Assessment Award for Classroom (Schools) was awarded to Noumea Primary School, New South Wales.

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**The National Assessment Award – VET in Schools** winner was Newstead College in Launceston, Tasmania, who has designed an innovative and active school industry program. The process supporting this program has been developed with regard for consistency in the area of assessment, feedback and evaluation particularly between teachers and workplace supervisors. To this end, Newstead College has developed standardised procedures for conducting, scoring and recording assessments. These procedures are regularly reviewed and modified in consultation with industry representatives, workplace supervisors and VET co-ordinators from neighbouring colleges. A unique feature of the assessment process at Newstead College is their restaurant that provides simulation opportunities for students to demonstrate hospitality competencies.

Lyn McClenaghan has been instrumental in raising the profile of key assessment issues in Vocational Education and Training at Newstead College. She actively encourages experimentation in the design of measurement instruments and recording processes within a quality framework. Currently Lyn holds the position of VET in Schools Development Officer in the Esk Region of the Tasmanian Department of Education. Having previously worked in the Department of Transport and the Department of Construction she understands the importance of ensuring that VET students are accurately assessed against industry standards.

The finalists for the category of VET in Schools Award were:

- Jill Duczynski who is the workplace co-ordinator in the Children's Services Program at Elizabeth College, Hobart, Tasmania. Jill has designed and implemented an innovative approach to recording both on-the-job and off-the-job assessment processes and outcomes of students undertaking school-industry programs. The transparent process encourages student's to monitor their own competency developments and provides guidelines for the consistent interpretation of the standards amongst workplace supervisors; and
- Launceston College, in Tasmania designed a collaborative and flexible assessment system to support the delivery of its VET in School Programs and school-based new apprenticeships. The system has been designed to encourage students to take an active role in identifying their own training needs and monitoring their own progress toward competence. Quality assurance features of the system emphasise auditing assessment procedures activities of both workplace

supervisors and external trainers and their contribution to the final assessment outcome of students.

**The National Assessment Award - VET (RTOs)** was awarded to Bendigo Regional Institute of TAFE – Kerang, Victoria. They developed an innovative, practical and cost effective simulation exercise for assessing against the Certificate II in Agriculture (Dairying). They developed a mechanical, pregnant, Friesian cow called “Cherry Blossom”. Apprentice farmers now have realistic, hands-on opportunities for demonstrating animal husbandry competencies required for identifying body parts of unborn calves and correcting for abnormal calf positions. Evaluations demonstrated that the competencies transferred to real situations. Through this innovative development, BRIT has made an important contribution to assessment as part of the Agriculture Training Package; not to mention the benefits gained from numerous cowherds around the world.

Finalists for the VET (RTOs) award were:

- The WebTrain Team from Bendigo Regional Institute of TAFE in Bendigo, Victoria, has developed an internet software designed to deliver training and education on the Web. WebTrain can effectively replicate a normal classroom environment and does not allow learners to progress unless they have achieved the desired milestones or outcomes. Whilst learning is generally self-paced it can continuously track the progress of each student. An audit trail is established that ensures total quality control of the learning process and even allows for tutors to be assessed. Some of the features of WebTrain are that the WebTrain team can develop the resources required for online delivery or provide the instructional design necessary to do-it-yourself. It is usual for one hour of real-time learning to be developed on the Web in three to five hours. WebTrain is able to put values into the assessment component of the program, rather than just supply multiple choice questions. A library of reference material, asynchronous chat groups and hotlink functions can be attached to the program and made available online. WebTrain can be customised to suit learning requirements from a modules, competency or educational based perspective; and

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- The Institute of Driver Development in Perth, Western Australia, established a competency-based assessment of driving at several levels. The assessment was designed to determine the knowledge and skill prior to and at the outcome training as well as an assessment of the behavioural changes that had taken place. An overall analysis of the data also provides input to policy development.

**The National Assessment Award – Workplace** winner was the Department of Defence in Canberra, who has designed a comprehensive competency assessment kit that provides guidance to assessors and assessment panels for the systematic planning, conduct and review of assessments within the industry. Guidelines for integrating different assessments into holistic judgements of competence are an integral component of this kit. It is supported by clearly defined assessment policies, standardised assessment tools and procedures, as well as continuous professional development programs for assessors.

“Acceptance of assessment is directly related to the credibility of the assessment act, supported by the credibility of assessment panels, the system and underlying processes and procedures. For the Department of Defence, the recognition given by this award supports the credibility of our system and therefore of our assessment outcomes.”

The finalists for the Workplace Award were:

- The Recognition and Assessment Centre at Kangan Batman TAFE in Melbourne, Victoria has designed a resource kit to guide assessments against the Plastics, Rubber and Cablemaking competency standards. The materials provide practical, user-friendly and cost-effective guidance for assessments within an industry that is characterised by the predominance of small businesses. The package pays special attention to the candidate's literacy needs; and
- The Building and Construction Industry Training Council of Western Australia has designed a cost-effective assessment system for formal national recognition of competencies for a predominantly uncredentialed workforce. This flexible system incorporates a mix of assessment strategies including practical demonstrations, oral questioning, document analysis

and third party reports. The system is underpinned by quality assurance mechanisms that continuously monitor the assessment process. This research driven system also allows for continuous monitoring of the competency patterns of its workforce to respond to current and future training needs of the industry.

**The National Assessment Award – Classroom (Schools)** winner was the Noumea Primary School in Shalvey, NSW. The staff of Noumea Primary School have developed an outcomes approach to the teaching/learning/assessment paradigm that enables the construction of authentic assessment tasks and individualised education programs. Agreed reporting protocols emphasise developmental progress and individualised student descriptive profiles. Learning performance is criterion referenced and continuously recorded on the schools Management Information System by the teacher and student, enabling the sharing and analysis of student performance with the student, parent and peers. This has led to the significant improvement of reflective, accountability and continuous improvement processes at class and whole school level.

Finalists for the Schools Award were:

- Kurri Kurri High School, New South Wales has developed an authentic Year 10 assessment package focusing on generic skills necessary for later life. Students monitor their own progress against outcomes and an interview panel, consisting of staff and community members, assessed students' development and progress in social, communication, decision making, problem solving, goal setting, self discipline and commitment to life long learning. Evaluations have identified ways of improving the program. Successful outcomes included strengthened student task focus, metacognitive skills and commitment to learning; and
- Masada College, an independent Preschool to Year 12 school, situated in northern Sydney, has developed an efficient and flexible method of using a computer application to report student achievement. The process incorporates an outcomes approach to assessment of students learning, judgements are made against specified standards set. The school reports to parents of children from Kindergarten to Year 8 and will extend to Year 12 by 2001. The College can track student and cohort progress over given periods, defining learning through

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any one of the criteria specified. Subject outcomes are support by personal skills and ability outcomes, to give a true image of each student at critical learning intervals. This allows Masada College to be at the forefront of reporting across the full range of schooling, linked to outcomes and rigorously defined standards.

### **1999 National Assessment Awards Sponsors**

- North Shore Development and Coaching Centre sponsored the 1999 National Assessment Awards. Since 1994, North Shore Development and Coaching Centre has been organising the Creative Problem Solving Competition which is now a national competition supported by the Assessment Research Centre at the University of Melbourne.
- NEC has a strong commitment to the Australian and International Education Marketplace and sponsored the 1999 National Assessment Awards.
- The Australian Student Traineeship Foundation (ASTF) is an independent body established by the Federal Government in 1994 to develop and support school-industry and community partnerships, which provide structured workplace learning opportunities for all senior secondary students.
- VETNETwork is the peak national body representing teachers, educators and trainers involved in vocational education and training in schools. It is a membership based organisation, with representation from all states and its principal activity is involved in the building of a national, professional community of VET in Schools practitioners. It has been a strong advocate for school-based VET, including school-based and part-time apprenticeships and traineeships. VETNETwork supported the National Assessment Awards because of its commitment to improving the collective understanding of best practice in assessment of VET in schools programs, particularly the industry-based component of such programs through the recognition and celebration of outstanding work in assessment.

## 1999 FINANCIAL STATEMENT

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<b>Research Programs</b>	<b>Income</b>	<b>Expenditure</b>	<b>Balance</b>
Vocational Assessment	90,086.14	65,546.54	24,539.60
Applied Measurement	682,921.58	506,253.30	176,668.28
Training and Teaching	33,830.80	48,037.72	-14,206.92
Administration	8,100.00	62,774.16	-54,674.16
<b>TOTAL</b>	<b>814,938.52</b>	<b>682,611.72</b>	<b>132,326.80</b>