

Australian Council for Educational Research

forty-ninth annual report

78-79



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1978-79



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Radford House, Frederick Street, Hawthorn, Victoria 3122

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The President of Council, Dr S. A. Rayner, addresses the assembly at the opening of Radford House, 13 September 1979.

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Annual Report of the Director

Presented at the Annual Meeting of the Council, 13 and 14 September, 1979

INTRODUCTION

During the past twelve months Advisory Committees have been established in each of the three main areas of research and development activity engaged in by the Council. One of the first tasks of these Advisory Committees has been to examine detailed statements on the program of the Council for each of three Divisions: Learning and Teaching, Social Foundations of Education, and Measurement and Evaluation. The issues raised in these statements have been both debated at length by the staff of each Division, by the whole staff at Quarterly Meetings of Staff, and by the Executive Committee as well as being examined critically by the Advisory Committees which comprise, in general, six persons drawn from outside the ACER and three members of staff, including the Assistant Director responsible for the work of the Division.

This debate has been not only of value to the Assistant Director, the Director, and the Executive Committee in developing a program, but also to staff, because from the debate they have been able to rethink the role and function of the ACER in research and development and to focus their attention and efforts on more tightly defined issues and more clearly prescribed tasks. The statements that have been prepared have as a consequence of the debate undergone successive rewriting and refinement until they have reached a stage when they can be published to serve as policy statements for those who are interested in examining the principles that steer the program of research and development of the Council, as well as guide those responsible for the program.

It would be unfortunate if the statements were to be seen as rigid prescriptions, because a program of research must necessarily unfold and evolve. However without clear guidelines there is a serious danger that the program could become diffuse or desultory.

The Council is grateful to the members of the Advisory Committees who have given time and thought to studying, criticizing, and proposing changes to both the program of research and to the statements that have been prepared. Their interest in the work of the ACER is greatly appreciated, and it is hoped that they will continue in the years ahead to help the Council to evolve a balanced and integrated program of research and development.

The Rejection of Fragmentation

In the development of a program of research studies it is important to recognize that the ACER is an independent educational research

organization in which the opportunity arises to establish a team of research workers who are engaged in an interrelated set of studies. The members of such a team of researchers are able to collaborate, exchange ideas, and assist each other in numerous ways both large and small in pursuing their investigations. From such interaction a greater degree of continuity in research activity for both the individual and the team should be maintained.

Research in the area of learning and teaching, for example, is not new to ACER. However, in the past, topics for research have been identified within this general area and individuals have been encouraged to pursue their personal interests concerned with these topics. Under some circumstances such as those existing within a university, this arrangement for the conduct of research in education may be appropriate but if a co-ordinated program of research is to be developed within the ACER, then such an approach must necessarily be rejected. In many ways the following of a fragmented approach would be easier to plan and to direct, than would the development of an integrated and co-ordinated program. It would merely be necessary to identify important topics for research in such fields as Curriculum Evaluation, Concept Development, Language Studies, and Surveys of Educational Achievement, to appoint staff to work on these studies, and to allow each member of staff to pursue his own research interests. The danger of this approach is that it becomes too dependent on individuals and any segment of the research program could disintegrate if an individual encountered difficulties in pursuing his research or if an individual left to undertake employment elsewhere. A preferred approach, which would appear to have many advantages, involves the identification of interrelated domains of research where there is a high priority with respect to clearly defined guiding principles.

It should be noted in passing that, in the identification of specific problems for investigation and in the undertaking of specific research studies, efforts should be made to anticipate issues of concern before they arise. Any piece of worthwhile research takes a period of 12 months to three years to plan, carry out, and report; and instant answers cannot be provided, except perhaps from reviews of previous research. Furthermore, one piece of research frequently opens up new issues for investigation and an ongoing program evolves. In general, it is desirable to develop, within a specified domain, a continuing program of research extending over a period that is greater than three years, rather than to follow a course which involves a disconnected and unmethodical skipping from one problem to another.

In order to specify worthwhile domains of research, it would appear useful to try to identify major educational issues that are likely to arise within the coming decade. However, the identification of such issues is not an easy task and requires an understanding of past and

possible future trends in educational thinking. The preparation of a review of previous research can frequently assist in such a task.

Establishing Priorities

There are many factors that determine whether or not specific studies are undertaken. Consideration must be given to the interests, abilities, and skills of the staff who would be available to undertake an investigation. While the staff should have a substantial say in the types of studies they undertake, it would seem essential that the program of research remained well integrated and was not allowed to become too diffuse.

In the past, the ACER has, in the main, conducted research which has involved students in normal schooling within government and non-government primary and secondary schools, and has rarely undertaken research in tertiary institutions and in pre-school centres. While there are, within many universities and tertiary colleges, persons well able to carry out research, it would not seem inappropriate for the ACER to undertake studies at the tertiary level provided such projects involved working in the areas of priority referred to below. In the field of Technical and Further Education where there is at present only limited research expertise, the ACER could play a useful part by carrying out studies which related to the areas of priority and were of relevance to issues associated with unemployment and the transition from school to constructive adult life.

In addition, there is a field of continuing education embracing an enormous range of educational opportunities many of which are informal. Here, there are few research workers available to undertake the studies that are urgently needed. Consequently, it may be desirable for the ACER to undertake work in this field.

It should also be noted that the ACER has historically not been involved in studies of students with severe learning disabilities, believing that these studies were more appropriately carried out in centres where such students were being taught, or in institutions which specialized in such work.

The ACER is necessarily influenced in its undertaking of research studies by the level of funding that is provided through the Core Grant received from the State and Commonwealth Governments. In addition, some studies are also supported by moneys supplied by specific funding agencies. In such cases the nature of the project carried out is largely determined by the constraints imposed on the study by the funding agency. The establishment of policy for research in a particular area influences the nature of the research studies accepted following a request from a funding body. A stated policy of research also serves to notify funding bodies of the areas within which the ACER believes research should be carried out within Australia. Furthermore the

policy helps to identify studies which, in the future, can be undertaken using funds available from the Core Grant.

In the development of a detailed program of research and in undertaking specific studies, consideration must be given to the skills of the staff available, the maximum impact for policy and practice of the research undertaken, the cost effectiveness of the research, and the extent to which the research undertaken fits into a map of research in the field under consideration.

PROGRAM IN LEARNING AND TEACHING

Advisory Committee

Mr A. Webster (Chairman), Mr M. J. Angus, Professor W. J. Campbell, Mr J. Mitchell, Dr P. Tillett, Professor R. P. Tisher, Mr S. F. Bourke, Dr M. J. Rosier, The Director

Guiding Principles

In the formation of a program of research and development in the area of learning and teaching, it is necessary to specify guiding principles which will help in the identification of important issues for investigation and research. Without such principles to steer and direct the planning of a program, there would be a serious danger that the research carried out would be both fragmented and disjointed.

There are three principles which would appear to be appropriate in the selection of research issues for a coherent program in this area. The first is the pursuit of educational equity, in the sense of providing the circumstances and conditions to meet the differing educational needs of individual students. The second principle involves a concern for those aspects of learning that are essential for living in a modern democratic industrial society. The third principle requires that the research undertaken should result in improved educational practice.

In stating the principle of educational equity we recognize that complete equality of opportunity in education does not exist in Australian society. However, our concern is not for equality of educational outcomes or for equal educational provision for all, but rather for the identification of the educational needs of each student and the provision of an educational program according to the needs and interests of each student. We acknowledge that some individuals, because of their race, ethnic origin, social class, the region in which they were born, or sex, have greater access to educational opportunities. However, we recognize that one by one some of the deficiencies in the provision for education in this country have been overcome, and that changes have occurred since the publication of the Report of the Interim Committee for the Australian Schools Commission.¹ Nevertheless a great deal more remains to be done, and it is clear that the lack of educational equity is not limited to the more obvious social differences. It must be argued, as the Report of the House of Representatives Committee into Specific Learning Difficulties² has done,

¹ Karmel, P. (Chairman). *Schools in Australia: Report of the Interim Committee for the Australian Schools Commission*. Canberra: Australian Government Publishing Service, 1973.

² Cadman, A. G. (Chairman). *Learning Difficulties in Children and Adults: Report to the House of Representatives Select Committee on Specific Learning Difficulties*. Canberra: Australian Government Publishing Service, 1976.

that attention should be given to improving the provision for those students with learning handicaps. Furthermore, it is necessary to draw attention to the fact that gifted students have frequently been overlooked and ignored. By following the principle of the pursuit of educational equity, the ACER would be led into fields of research in which the nature of the educational disadvantage experienced by individuals and important subgroups in our society was studied. From this research appropriate policies and practices could be suggested for situations within which disadvantaged students were learning and were being taught.

It is recognized that we are living in a period of marked change not only with respect to the range and complexity of the knowledge and skills required for daily life in a modern industrial society, but also with respect to the attitudes and values of such a society. While the skills of literacy and numeracy are still in demand, new skills that are predominantly oral, logical, and schematic have recently come into prominence and the attainment of competence in these skills has become increasingly important. If the needs of individual students are to be met to the full, it is necessary that not only should research be undertaken into the mastery of the basic skills of reading, writing, and number work, but also into the development of a facility in these new skills and knowledge. Moreover, it is essential that research be carried out into the acquisition of personal and social attitudes and values, which are required for the successful transition from schooling to a constructive adult life.

By advancing a principle involving the improvement of educational practice, it could be suggested that there is undue emphasis on something that is self-evident and obvious. Nevertheless there is, in the statement of such a principle, a clear recognition that the research being carried out must be concerned with ways in which the effectiveness of learning by students can be increased. However, this should not be taken to imply that the research must be merely concerned with the application of a psychological principle to educational practice, or with the undertaking of a study that is totally oriented towards the resolution of a policy issue. It is essential that the research should be both firmly grounded in theory and clearly relevant to some important aspect of educational practice. Such research could well involve a detailed study of student learning, an evaluation of curriculum change, or an investigation into the effectiveness of specific teaching strategies, since all can be related to theoretical issues and all are likely to be highly relevant to improving educational practice. Yet it is important that the relationships between the research and the improvement of educational practice should be considered both in the planning phase of an investigation and also at the time the implications of the research are being examined.

Linking these three principles, advanced to guide the planning of a program of research, is a clear recognition that:

The proper handling of individual differences between children still remains the most challenging problem in education . . . We know, even when we assert, quite sincerely, that children have common needs, show common interests, form part of an integrated society, that no two children except perhaps at birth are ever at quite the same stage in their needs, ever have quite the same background to their interests, or ever can make quite the same contribution to their common society.³

This statement was made by Dr Radford at an ANZAAS Congress in Perth nearly 20 years ago, and the ideas contained in his paper influenced the planning of work undertaken at the ACER during the years that followed and are today both supported and accepted. They serve as the link between the principles of educational equity, the development of certain skills, attitudes, and values, and the identification of educational practice which will improve student learning.

Major Issues for Investigation

There would appear to be six major domains of inquiry within the area of learning and teaching to which the ACER should be directing its resources if it is to develop an effective and coherent program. The fact that each of these domains is quite broad, and the fact that the domains are overlapping and interrelated need not concern us unduly. What would appear to be important is that these domains are clearly identified and that our research and development efforts are focused in these directions. These domains of inquiry are:

- 1 studies of the acquisition and retention of the skills of literacy and numeracy,
- 2 studies of the acquisition of the personal and social attitudes and values important for living in modern society,
- 3 evaluation studies of the school curriculum including surveys to assess societal needs and priorities,
- 4 studies of learning and teaching practices related to the mastery of skills of literacy and numeracy and to learning within the school,
- 5 studies to identify the skills, attitudes and values required for successful transition from school to adult life, together with studies concerned with guiding and counselling students during a period of transition,
- 6 studies of the learning problems of individuals and certain sub-groups in our society, including students of non-English-speaking

³ Radford, W. C. Individual differences and classroom organization. *Australian Journal of Education*, 1961, 5(1), 3-10.

origin, Aborigines, and girls with respect to the learning of science and mathematics.

Each of these domains will now be examined in detail to indicate the nature of the research issues that are seen to exist within them. In addition, it is necessary to translate the general statements presented above into more specific studies which are seen to be of importance to Australian education, and to which a high priority might be assigned.

The Acquisition of the Skills of Literacy and Numeracy

The most substantial educational problem in the world today is concerned with the acquisition of the skills of literacy and numeracy. Since the beginning of the twentieth century, it has been assumed that almost all Australians could read and write effectively and that a problem of significance did not exist in this country. However, it is apparent that the arrival of a large number of migrants from non-English-speaking backgrounds has served to direct attention to a problem that has always been present to a greater or lesser extent in this country. It is important to note in passing that, within the domain involving the acquisition of the skills of literacy and numeracy, we would necessarily include the skills of speaking and listening and possibly the skills associated with the interpretation of visual material.

The transmission of the skills of literacy and numeracy is traditionally one of the few elements of education regarded universally as central to the role of the schools. From contact with evaluation studies being conducted in developed and developing countries, we have learnt something of the magnitude of the problems in this field and of the difficulties encountered by the programs which have been introduced to grapple with these problems. Many issues of a theoretical nature are involved, such as: whether a threshold concept⁴ can be used; how such a threshold should be defined; whether different threshold levels apply for different degrees of participation in a society; whether a threshold level can be assessed using a normative test; and if the use of a normative test were rejected, how the essential tasks which determine the threshold should be defined. There are, in addition, many more practical issues that have barely been recognized, namely: to what extent are the skills of literacy and numeracy retained by different subgroups in society; to what extent is mastery of the skills of reading and writing dependent on performance in speaking and listening; to what extent is the retention of a specific skill related to usage; to what extent is illiteracy prevalent among adults in Australia; and can persons who have not acquired

⁴ Smith, B. O. and Orlosky, D. E. *Socialization and Schooling: The Basics of Reform*. Bloomington, Indiana: Phi Delta Kappan, 1975.

these skills operate effectively in our society, and if so, what strategies do they use?

It would appear to us to be desirable that, having undertaken a major study in the domain of literacy and numeracy and having made recognizable advances in the field, the ACER should continue to work in the domain. The problems of literacy and numeracy are of such magnitude and of such consequence, not only within Australia but throughout the world, that to withdraw from research in the domain at this stage would be to repudiate the research gains made in the work undertaken so far, and to deny the claims that have been made for the relevance of the work the ACER has carried out. Moreover, we would argue that by continuing with work in the field, such as we have done in the studies of speaking and listening, we are investigating new problems, and developing a fuller understanding both of the issues for learning and teaching in the schools and of the degree of disadvantage encountered by individuals and subgroups in our society.

Studies of the Acquisition of Attitudes and Values

An issue of increasing concern not only in Australia but also in many parts of the western world involves the acquisition of those attitudes and values which are important for living in a modern democratic society. In part the problem arises from the difficulty of specifying and reaching agreement about the attitudes and values of importance, in part it arises from a lack of understanding of how such attitudes and values are best developed by the young in our society, and in part it arises from a lack of agreement among the different institutions in our society as to whose responsibility it is to foster these attitudes and values in the minds of young people. Nonetheless, there would appear to be strong acceptance of the fact that research in this domain would help to identify and clarify issues of considerable importance to those responsible for the education of youth.

Previous research has revealed the problems of lack of validity of the procedures employed to assess attitudes and values, and considerable research and development effort is needed to attempt to improve the measurement of attitudes and values so that student learning related to the acquisition of attitudes and values can be more effectively investigated. Previous research has also indicated that the attitudes and values of students at school are malleable and that under appropriate conditions clearly identifiable changes in the attitudes and values of youth can take place. However, little is known about the stability of attitudes and values, or of the relationships between expressed attitudes, values, and behaviours which would appear to be dependent on them. This domain is believed to be one of importance and of high priority. Moreover, it is one in which a substantial number of research problems might be found and within which major research and development studies might be undertaken.

Evaluation Studies of the School Curriculum and Language Learning

The ACER has for 30 years or more undertaken evaluation studies of the school curriculum. The Curriculum Survey of 1946 had an influence on curriculum planning in several States. However, the IEA studies of achievement in mathematics and science have had less impact within Australia than might have been anticipated, perhaps because we have not been successful in identifying the implications of the research for curriculum practice. Nevertheless, we believe that the work carried out over the past 15 years should continue. Gradually we believe we can build up a substantial body of evidence to map curriculum change. At a time when our schools are transferring from the use of centrally prescribed syllabuses to school-based curriculum development, only by nation-wide or state-wide surveys will it be possible to document the changing curriculum practices of our schools.

Perhaps the most central issues relating to the school curriculum within Australia are those concerned with language learning. The problems of language learning are recognized as important not only in this country but also in Britain and the United States. Within recent years considerable research effort has been directed towards these problems in other parts of the world and major clearing houses have been established in London and Washington to disseminate the findings arising from such research. However, the evaluation of language learning would appear not to have received the same attention as other aspects, and under these circumstances it would seem profitable if the ACER undertook work on these problems.

From time to time the ACER is invited to participate in studies being carried out in individual institutions where an evaluation is being undertaken of the work of the institution. It is suggested that the role of the ACER is not to undertake evaluation studies of particular institutions but to develop strategies and methodologies by means of which an institution can do this work for itself. The studies that we have recently undertaken for the TAFE Council and the study for the Department of Immigration and Ethnic Affairs have involved the development of methodologies for evaluation research rather than the conduct of a specific evaluation of an institution.

Australian society is undergoing rapid change and it is inevitable that the demands upon schools will also change. However, to date we have developed few procedures for identifying changes in societal needs which might lead to changes in the curriculum of the schools. It is desirable that research should be carried out which will develop strategies for the assessment of societal needs. In addition, it is important that in certain areas, central to the work of the schools, studies should be undertaken which will identify those changes in the expectations of society that must be met by the schools.

Studies of Learning and Teaching Practices

Work in the domain of learning and teaching behaviour is characterized by the collecting of massive congeries of research results that are largely unrelated to each other and also unrelated to any underlying theory. Only now are rudimentary theories emerging which are derived from the research findings that have been assembled. Of particular interest is the fact that the ERDC has identified this field as one of its priority areas for research in Australia, and the working documents that have been prepared by the Priority Area Advisory Group in this field are of considerable value.

In developing a program of research in this domain which we believe is too important to ignore, in spite of the fact that many other research workers in Australia are engaged in studies of teaching behaviour, it is necessary to consider those aspects which the ACER is well placed to undertake. Teaching and learning practices which are related to learning for mastery do not appear to have been thoroughly investigated. The undertaking of work along these lines would be strengthened by the corroborative studies of assessment of the acquisition of the skills of literacy and numeracy. However, it may be desirable to shift away from the field of literacy and numeracy in an initial investigation, and to choose a school subject such as science, which students start afresh as they enter secondary schooling. A further advantage of undertaking work in this specific area is that a link can be made with a major IEA Project. In this way we can maintain contact with forward thinking in this field and can undertake a study that parallels work being done elsewhere.

It would be of considerable value if, in association with a study of the allocation of staffing and resources to and within Australian schools, it were possible to examine the influence of structural differences on teaching and learning practices in classrooms. For example, very little would appear to be recorded about the effects of different forms of classroom grouping on the behaviours of students and teachers in Australian schools. In addition, more needs to be known about the influence that open classroom design has on learning and teaching behaviours, or how the availability of certain types of resources influences what teachers and students do in classrooms. The undertaking of such studies would be beneficial in so far as they would extend our understanding of work being undertaken in another Division of the ACER.

Studies in the Field of Transition from School to Constructive Adult Life

The report of the Committee of Inquiry into Education and Training⁵

⁵ Williams, B. R. (Chairman), *Education, Training and Employment: Report of the Committee of Inquiry into Education and Training*. (3 vols). Canberra: Australian Government Publishing Service, 1979.

has recommended that, while schools should continue to stress general educational objectives, they have an obligation to assist students in the transition from school to work. There are many research and development studies which could be undertaken with this goal in mind including the investigation of counselling and guidance programs, the evaluation of work experience and pre-vocational programs, and the analysis of skills and attitudes required in particular occupational situations.

The Committee of Inquiry into Education and Training has drawn attention to an area of weakness associated with course development for which more investigation is required.⁶ Underlying such work is the detailed analysis of the skills required for various occupations and for the evolving of appropriate teaching and learning strategies which lead to the mastery of these skills. This field of work is immense and the role for the ACER would be to develop strategies and methods of working. The Committee also makes several recommendations for research and development activities associated with the planning of teaching materials, the use of computer assisted instruction, technological aids and self-paced learning programs. The ACER's previous experience in this field could be of assistance.

Where new courses and new approaches are advanced for pre-vocational and vocational training programs, it is important to develop procedures for the evaluation of such courses. The work of evaluation is, we believe, best undertaken by those conducting the courses in collaboration with their peers. However, this demands that methods and procedures are developed which will aid those who conduct the evaluation, and that efficient ways of providing training in both old and new skills are identified.

The Committee also recommends the development of procedures for determining motivation, interest, and aptitude for training for various types of occupations. These procedures we believe should be used for purposes of student self-selection involving extensive guidance and counselling. A large area of research and development where little work has been done in this country is clearly identified, within which the ACER might be expected to make a contribution. An important facet of work in this area involves the study of factors which lead males and females into different fields of employment and which lead employers to select males and females to undertake different types of work.

While the main thrust of the findings of the Committee was directed towards training for employment, the importance of educating for leisure and for transition to constructive adult life cannot be gainsaid. Consequently we believe it is essential that the work currently being undertaken in this field should continue.

⁶ *ibid.*, Vol. 3, p. 28.

Studies of Learning Problems of Individuals and Subgroups

During recent years the ACER has undertaken several studies that have examined the differences in school achievement between different subgroups in our society. Studies have been carried out on the achievement of students of different ethnic origins, from homes of differing socio-economic status, from differing geographic regions, from differing urban zones, of Aboriginal students, and of students who differ only by sex. From these studies we have documented the nature and extent of the disparities which exist in schools across Australia. The next step in our inquiries is to examine some of the factors that give rise to such differences so that we can develop a further understanding of the causes of these differences. Thus a study of students with perceptual-motor problems which uses sophisticated techniques will, we hope, establish relationships between the existence of such disabilities and learning to read.

The advances made by school systems in catering for various disadvantaged subgroups in our society could be examined if monitoring studies of the acquisition of the skills of literacy and numeracy were undertaken. Consequently we see the undertaking of such monitoring studies as an important component of the educational programs provided for certain subgroups in our schools. However, it is evident that such monitoring studies are in themselves not enough; a fuller understanding of the basic causes of educational disadvantage is urgently needed.

Some Technical Considerations

It would not be possible to undertake the range of studies outlined above unless certain technical skills had been adequately developed and unless certain facilities were readily available. The studies envisaged would seem to depend on the development of the following skills and facilities:

- 1 In order to carry out a national survey of school achievement, an up-to-date and soundly constructed national sampling frame must be prepared. The present ACER sampling frame was constructed in 1975 and requires extensive revision during 1979 if it is to continue to be useful.
- 2 The collection of large bodies of data from national surveys is wasteful unless the data are carefully archived so that they can be re-examined readily. It is hoped that the feasibility study for the establishment of Australian educational data archives will assist in determining the appropriate steps to be taken in the archiving of data.
- 3 A very high proportion of studies of teaching behaviours are seriously deficient in so far as the data have been analysed in

inappropriate ways. The ACER currently lacks expertise in the analysis of experimental and observational data collected from students who are nested within classrooms and within schools. It is of some urgency that we improve our capacity to examine such data both by regression techniques and by alternative procedures.

- 4 Studies of mastery learning require the use of criterion-referenced measurement procedures. At the present time our understanding of the appropriate procedures for determining cutting scores in criterion-referenced tests is well advanced, but it is important that we maintain our competence in this field.
- 5 The ACER has in recent years undertaken research involving initial exploratory case studies of schools and other institutions to examine in depth the many factors influencing the activities of the institution. In addition, several studies have been carried out in which a survey has been conducted, and schools exhibiting certain characteristics have been identified from the survey data for in-depth study to investigate the interaction between the various factors that influence the activities of the school. The relative merits of these two approaches have not been examined, and it would be of some importance to consider the conditions under which each approach is best used and the types of research questions which can be answered by each approach in order to guide future research.

NATIONAL STUDIES OF EDUCATIONAL OUTCOMES

Second IEA Mathematics Study

Malcolm J. Rosier, Jill D. Mason, M. Claire Robinson

(This project is included in the ACER Core Program. Claire Robinson is seconded from the Victorian Education Department.)

The Second IEA Mathematics Study may be considered in two parts—national and international.

The national study involves an examination of the changes in mathematics curriculum, achievement, and attitudes over the 14-year period between 1964 and 1978. On these two occasions data were collected from samples of students across Australia at the 13-year-old and Year 12 levels. The mathematics tests and attitude scales administered in August 1978 were essentially the same as those administered in August 1964. In both 1964 and 1978 information was also collected from State Education Departments about the mathematics

curriculum. The project report, to be prepared by the end of 1979, will document the effects of changes in the curriculum on mathematics achievement.

The data collection for the international study has been postponed from 1979, as initially planned, until a future date to be determined in consultation with the International Mathematics Committee. In the meantime, ACER is assisting in the planning for the international study. A data analysis seminar held at ACER from 19-20 February 1979 was attended by participants from New Zealand and several Australian States, and also included Professor Dr T. Neville Postlethwaite from Hamburg. The seminar helped to clarify several methodological aspects of the longitudinal study. IEA has established a Sampling Committee for the study, of which the members are Dr Malcolm Rosier (chairman), Dr John Keeves, Mr Ken Ross, and Mr Ian Livingstone (NZCER). The committee has produced a Sampling Manual and has started to provide advice on sampling designs for the study to the participating countries.

Publications and Papers

Rosier, M. J. (Ed.). *Second IEA Mathematics Study Sampling Manual*. Wellington: IEA, 1979.

Rosier, M. J. Changes between 1964 and 1978 in the mathematics curriculum and achievement of Australian 13-year-old and final-year secondary students. Paper delivered at ANZAAS Congress, Auckland, January 1979.

Achievement in Schools Study

Sidney F. Bourke

(This project is included in the ACER Core Program.)

Preliminary planning for a study to monitor school performance across Australia began during May 1979. The program would involve survey testing of samples of 10- and 14-year-old students at regular intervals on aspects of the school curriculum including reading, writing, and number. A proposal for the development and administration of survey tests and the reporting of results has been prepared for a working party set up by the Australian Education Council (AEC) consisting of Mr D. Swan, Director-General of Education (NSW), Mr S. S. Dunn, Chairman of the ERDC, and Dr J. P. Keeves, Director of the ACER.

Any further work on the project is dependent upon approval and funding by the Australian Education Council.

STUDIES OF THE EDUCATION OF SPECIAL GROUPS

The Education of Aboriginal Children in Victoria

Marion M. de Lemos

(This project was included in the ACER Core Program.)

The final integrated report on the series of studies undertaken in this project has now been completed. This report brings together the results of the surveys of the total population of Aboriginal primary and secondary school students in Victoria, and also the results of the testing programs at the primary and secondary levels.

The results of the survey studies provided information on the number and distribution of Aboriginal students in Victoria. Information on their attendance, their achievement as rated by their teachers, their mobility rate, the frequency of repetition of grades or forms, and their socio-economic background was also obtained. The testing programs at the primary and secondary levels provided more detailed information on the school achievement and attitudes to school of selected samples of Aboriginal and non-Aboriginal students. The secondary school study also included an analysis of the school leaving patterns of Aboriginal and non-Aboriginal students.

At both the primary and secondary levels, the performance of the Aboriginal students on various tests of achievement in the basic school subjects was significantly lower than that of non-Aboriginal students selected at random from the same schools as the Aboriginal students. Differences in attitudes to school were however less marked, and at the secondary level there were no recognizable differences between the Aboriginal students and the random samples of non-Aboriginal students on the attitude scales which assessed academic motivation, liking of school, and self-regard.

The results of these studies do not support the view that the low achievement of Aboriginal students can be attributed to poor motivation, a poor self-concept, or a dislike of school since, while there were substantial differences between Aboriginal and non-Aboriginal students in achievement, there were no marked differences between Aboriginal and non-Aboriginal students on the attitude measures.

Publications and Papers

de Lemos, M. *Aboriginal Students in Victoria*. (ACER Research Monograph No. 3). Hawthorn, Victoria: ACER, 1979.

School Readiness and School Achievement

Marion M. de Lemos, Patricia Larsen

(This project was included in the ACER Core Program.)

The final report on the survey of school readiness has been completed. This study arose out of the earlier study on the language and conceptual abilities of pre-school children, funded by the Australian Advisory Committee on Research and Development in Education (now the Education Research and Development Committee).

In the survey of school readiness, samples of children were tested on entry to school and at the end of their first, second, and third years of schooling on a battery of school readiness and school achievement tests. The samples of children were drawn from two contrasting socio-economic areas of Melbourne, and included children from both English-speaking and non-English-speaking backgrounds.

The results of the study indicated significant differences in school readiness and school achievement between the four main groups tested. The English background group from the high status area scored consistently higher than the other three groups, while the non-English background group from the low status area scored consistently lower than the other three groups. Differences between the non-English background children from the high status area and the English background children from the low status area were less marked and less consistent.

Analyses of the factors related to school readiness and school achievement indicated that the factors most closely related to test performance were the language background of the home and the socio-economic status of the area in which the school was located. Father's occupation and the educational level of the parents were also significantly related to test performance in the case of children from an English-speaking home background, but this relationship was less marked in the case of children from non-English-speaking home backgrounds. Age on entry to school and sex were generally not significantly related to test scores, although there was some tendency for girls to score higher on the reading tests and boys to score higher on the arithmetic tests. Pre-school attendance was apparently related to test scores, particularly in the case of the English background group. Period of pre-school attendance was also important, children who attended pre-school for a longer period scoring higher than children who attended for a shorter period. There were no significant relationships between test scores and family size, birth order, or attendance at a day-care centre.

Differences in pre-school attendance between the four groups in the study were also found. A higher proportion of the children in the high status areas both attended pre-school and attended for a longer

period of time as compared with the children in the low status area, and within each status area a higher proportion of children from English-speaking backgrounds attended pre-school as compared with those from non-English-speaking backgrounds.

These differences in pre-school attendance and period of pre-school attendance point to inequalities in the educational opportunities of children from different socio-economic and cultural backgrounds. The children who are least likely to attend pre-school are also the children who show the lowest readiness for school and whose school achievement lags consistently behind that of the other groups. These results suggest a need to look more closely at the pre-school services provided in lower status areas with a high concentration of migrant children, not merely in terms of the availability of services, but also in terms of the suitability of the services for the population they are designed to serve.

Publications and Papers

- de Lemos, M. Studies of school readiness and school achievement. *Australian Journal of Early Childhood*, 1979, 4 (1), 10-13.
- de Lemos, M. School readiness and school achievement: research findings on some of the factors related to school readiness and later school achievement. Paper presented at the 15th National Conference of the Australian Pre-School Association, Sydney, 1979.
- de Lemos, M. and Larsen, P. School readiness and school achievement: a longitudinal study. Unpublished report, ACER, 1979.

Studies of Children with Perceptual Motor Problems

Glen A. Smith

(This project is included in the ACER Core Program.)

A review of the extensive literature on hemispheric laterality in particular as relating to learning disabilities and abilities was started. Several tentative hypotheses were formed, mainly concerning the possibility that non-right-handed children need to correct a difficulty in the way they sequence units of sensory input and motor output. Those who can compensate for this possible deficit may have minor learning disabilities but can overcome them and perform overall better than average at school, while those who cannot are seen to show signs of specific learning difficulties.

An experiment to assess children's perception of left-right in visual mazes and other graphic figures was designed after discussions with Professor Gordon Stanley (Psychology Department, Melbourne Uni-

versity). A second experiment, involving monitoring eye positions of children with various reading abilities while actually engaged in reading, is in preparation. Work on the development of programs for a portable computer to control the perceptual-motor experiments has been started, but was delayed because an essential piece of equipment was delivered late.

Three papers arising from previous research have been prepared for publication in psychological journals.

STUDIES OF SCHOOL AND HOME PRACTICES

The Assessment of Oracy in Australian Schools

Sidney F. Bourke, Faye Holzer

(This project is included in the ACER Core Program and is also funded in part by a grant from the ERDC.)

Listening and speaking tests were developed and administered to approximately 1300 students aged 10 years and 1300 students aged 14 years at approximately 440 schools throughout Australia. Six students were tested in each school. The number of students tested in each school was reduced from that planned because of the extensive time demands being made on the school for the administration of individual speaking tests. The number of schools selected was increased to compensate and this enabled smaller student samples to be used without increasing sampling errors.

Background information about the school and each student tested was also collected. The school information included type, location, size, staff experience and turbulence, program sources, and the importance of oracy in the school's language development program. Student information included family background data, teacher perceptions of listening and speaking, problems the student may have, and the confidence with which the student approached the speaking test. Word Knowledge tests which had previously been used in the Australian Studies in School Performance project in 1975 were also administered.

The listening and speaking tests were based on a framework of tasks previously established. The tests assessed as many as possible of the tasks seen as important by teachers, by the Advisory Committee for the project, and by the research team.

Listening Tests

The stimulus material, test items and test instructions were all provided on audio cassette and the supervising teacher was asked to take responsibility for ensuring that all six students being tested knew what

to do. Multiple-choice and a few completion items were used. Test lengths were 23 minutes and 29 minutes for 10- and 14-year-old students respectively. Although many listening tasks were tested, the tests concentrated upon students' abilities to comprehend literal meaning at several levels, instructions, implied meaning, and conversations, to recall facts, and to identify a speaker's probable intent and intended audience.

Speaking Tests

These tests were conducted in the form of an interview with each of the six students individually. The test administrator or interviewer (usually a teacher at the school) worked from a detailed schedule which included guidance on when and how to prompt students where necessary as well as the actual questions to be asked. The interview, which lasted from 20 to 30 minutes in most cases, was recorded on an audio cassette and returned to ACER for scoring. In the main, two types of scoring were used: adequacy of response was scored on a four-point scale referenced to specific criteria, and fluency of response was scored on a five-point normative scale. Other assessments, such as expressiveness, were also made. The major speaking tasks assessed included giving personal details, instructions and information, reading aloud, telling a story, using appropriate information, expressing critical judgments, and organizing, developing, and presenting ideas.

Although it had been anticipated that using the two types of scoring for the speaking tests would be difficult and time-consuming, the problems associated with this work were seriously underestimated. Consequently preparation of the data for analysis was delayed at the end of 1978 and early in 1979. These delays will not affect the completion date for the project which is 31 December 1979.

Publications and Papers

Bourke, S. F. The assessment of oracy: feasibility and methods. Paper prepared for the conference, Developing Oral Communication Competence in Children, University of New England, Armidale, July 1979.

Educating for Leisure

John P. Keeves and Douglas W. Fox (Melbourne State College)

(This project was funded by a grant from the Australian Government Department of Environment, Housing and Community Development (now the Commonwealth Department of Employment and Youth Affairs), and supplementary funding has come from the ACER Scientific Research Fund.)

A second report in a series from this study has been completed. In this report the emphasis on education for creative living, which is presented, involves recognition that the issues under discussion are not merely those of filling leisure time or those of the extra-curricular activities of the school. The report proposes a balanced approach to education, work, and leisure and presents evidence from a survey in five States of the differences between school types and between States in their emphasis on important components of the leisure education programs of secondary schools. The quality of the experiences provided by the schools is illustrated by case study reports of the programs and activities of five schools.

Publications and Papers

Fox, D. W. *Educating for Leisure*. Hawthorn, Victoria: ACER, 1979. (mimeo).

Home Environment and Student Achievement

John P. Keeves and Ramon Lewis (La Trobe University)

(This project is funded from the ACER Scientific Research Fund.)

During the past year extensive reanalysis of the classroom and teacher data has been undertaken. This work has permitted an examination of different procedures of analysis and the effects of analysis at different levels. The first draft of a monograph was prepared for presentation and discussion at the IEA Second Mathematics Study Seminar held at the ACER in February 1979. This monograph is being extensively revised for publication.

Publications and Papers

Keeves, J. P. Home background and the outcomes of schooling. In Australian College of Education, *Quality in Australian Education*. Melbourne: The College, 1978.

Lewis, R. and Keeves, J. P. Classroom processes and achievement in science. Paper presented at the ASERA Conference, Perth, Western Australia in May 1979.

Social Learning and the Impact of Innovation

Kevin J. Piper

(This project was funded by the Education Research and Development Committee and the Curriculum Development Centre.)

This project consists of two distinct but interrelated studies. The first of these set out to investigate current school practices and attitudes in relation to social education, with special reference to education for social competence. An important subsidiary aim of the study has been the attempt to develop a typology of curriculum style, to identify the characteristics of a number of different styles, and to explore their consequences for the kind of social education that students receive. The investigation was carried out by means of case studies of 20 schools, 10 in Victoria and 10 in New South Wales, selected to cover a wide spectrum of approaches to the curriculum in social education. The study focuses on the junior secondary curriculum (Years 7-10) with a particular emphasis on Years 9 and 10, the point at which most students are preparing to leave the school system to enter the wider society.

A report of this study is currently being prepared for publication. Three aspects of the curriculum in social education—the ideal, the planned, and the operative—are explored from three different perspectives: those of the teacher, the student, and the outside observer (the researcher). The report identifies and describes three basic curriculum styles and nine specific style types, and provision is made for the classification of mixed and composite styles. The typology thus developed provides a flexible means of conceptualizing and classifying the curriculum in social education which is grounded in actual practice. It should therefore prove of interest to schools developing their own curricula, as well as to those engaged in curriculum research. On the basis of the evidence accumulated during the investigation, it has been possible to make a number of general observations, at least insofar as the 20 case study schools are concerned, on the nature of the curriculum in social education and on the relationship between curriculum style and the kind of social education that students receive.

The second study involves an investigation of the impact of the Social Education Materials Project (SEMP) on the programs and practices in social education of the 20 case study schools involved in the first study. It thus offers a unique opportunity for studying the impact of an innovatory curriculum project on a group of schools whose programs in social education have already been under investigation prior to the availability of the materials. Data collection for this study has been completed and is currently being analysed. It is expected that a report of the study will be available in August 1979.

Publications and Papers

Piper, K. *Curriculum Style and Social Learning: An Investigation into Current School Practices in Social Education*. (ACER Research Monograph No. 4). Hawthorn, Victoria: ACER, 1979.

The Teaching and Appraisal of Reading

Barbara Johnson

(This project was included in the ACER Core Program.)

This project was concluded with the publishing of the *Reading Appraisal Guide*. The basis of the guide is an assessment instrument which will enable teachers of Years 5-12 to gain information about both the cognitive and affective aspects of a student's reading problems. In addition to the assessment instrument, the guide contains literature reviews on the reading process and on attitudes to reading, and provides suggestions for improving a student's reading attitudes and reading strategies.

Publications and Papers

Johnson, B. *Reading Appraisal Guide*. Hawthorn, Victoria: ACER, 1979.

The Teaching of Number Work in Primary Schools

Sidney F. Bourke

(This project is included in the ACER Core Program.)

One aspect of this work was concerned with students aged 10 years who were competent readers but who had significant problems with number work. These students were identified by teachers and then confirmed by the administration of reading and numeration tests from the Australian Studies in School Performance project. Individual teaching/interview sessions were undertaken with these students in an attempt to identify patterns of errors which caused their difficulties when working with the four arithmetic operations.

There was a large degree of consistency in the types of errors made by the selected students. For example, attempted use of an inefficient method was by far the major source of error when students were asked to perform subtraction, multiplication or division. (An example of an inefficient method would be putting down 47 strokes on a page, crossing out 23 of them, and counting the remainder when asked to do the subtraction $47 - 23$.) There were few errors made for addition and, in the main, addition errors were random because of carelessness and not a function of the method or algorithm being used.

Four specific recommendations were made. Those that touched upon consultation and co-ordination between teachers at a school, individualizing of attention given to students, and the need to discover patterns of errors within classrooms have, it is suggested, a more

general application to curricula than use of the four operations with whole numbers.

- 1 There is a need to ensure that teachers are aware that there are different algorithms which may be applied in the the four operations. Once they are aware of alternative strategies, teachers at any one school should agree on which they will teach.
- 2 Teachers should ensure that students are actually practising the methods they are being taught when given examples for that purpose. The tendency for students to regress to less efficient and ultimately inadequate strategies in the four operations should not be underestimated.
- 3 The importance of estimation in helping students detect errors is evident. Estimating procedures apparently are not being explained adequately to some students and it is suggested that the importance of teachers encouraging their students to estimate answers be emphasized.
- 4 It is suggested that teachers spend more time looking through students' work in an attempt to discover not only what individual students' problems are, but also whether there are more general problems shared by a number of students. Once a type of error is identified, the teacher's time should be spent on eliminating the known specific problem, probably concurrently for a number of students who have made errors of that type. Such a procedure restores some balance to the excessive demands which would be made on a teacher's time by exclusive use of the individualized methods recommended above.

One phase of this work was concluded in December 1978. Further work on the teaching of number in primary schools is being incorporated into the work currently being undertaken for the School Achievement Test project.

Publications and Papers

Bourke, S. F. Community expectations of numeracy in schools. Paper presented to the AARE Annual Conference, Perth, 1978.

IEA Classroom Environment Study

Adrian M. Fordham

(This project is included in the ACER Core Program.)

This study is being planned in collaboration with an international team of research workers. The Chairman of the planning committee is Professor N. L. Gage of Stanford. The work on the project will be carried out in three phases over a four-year period.

In the first phase a questionnaire study will be undertaken to

investigate the context of teaching and learning in schools. Of particular interest are the beliefs and attitudes to learning and teaching of students and teachers, psycho-social dimensions of the learning environment, structural characteristics of the classroom, and a number of particular elements of teacher behaviour. Special emphasis will be given to four elements of teacher behaviour which a review of previous research indicated have a significant effect on learning outcomes. It is believed that each of these aspects of teacher behaviour may be modified by teacher education programs. The four process variables are: student learning time, classroom questioning, use of learning and instructional cues, and the use of feedback and correctives.

In the second phase of the study, a correlational investigation will be conducted to determine the interrelationships between each of the above variables and student readiness, achievement, and attitude.

In the third phase an experiment on teaching will be conducted with teachers trained to maximize their use of one or more of the four teacher behaviour variables. The trained teachers will be compared with a control group and the data will be analysed to determine the effects of training on teacher behaviour and on student achievement and attitude.

Evaluation of the Adult Migrant Education Program

John M. Mills

(The project is funded by the Education Branch of the Commonwealth Department of Immigration and Ethnic Affairs.)

The objectives of the project were to prepare a handbook of evaluation methodology suitable for use in 'On-Arrival' courses for migrants and refugees: it was intended that the handbook would also be useful to practising teachers and for pre-service and in-service teacher education. Guidelines were to be given for establishing the initial proficiency of students in English as a second language (ESL), for assessing their progress, and for evaluating the overall effectiveness of courses. Samples of test instruments were also to be prepared.

The project concentrated on student-oriented evaluation. A review of the literature concerning English as a second language and language testing was made. Close liaison was maintained with the joint Commonwealth-States Committee on professional aspects of the Adult Migrant Education Program (AMEP). Consultations were held with practising teachers in several States, observations were made in class, and testing experiments were carried out with a group of newly arrived students. Several papers on evaluation methodology have been given at in-service seminars for teachers in Melbourne, Sydney, and Brisbane, and these papers have been incorporated into the handbook.

Decisions on the content of the handbook were taken in the light

of specifications on teaching methodology that have been made by the AMEP Committee. In particular, the Committee has endorsed a functional approach to ESL teaching and has promoted the development of a scale of language proficiency defined in behavioural terms. The Australian Language Proficiency Ratings Scale was developed by Dr David Ingram, and the Project Officer helped with trial testing. This scale was accepted as the criterion to which all testing at the beginning and end of the 'On-Arrival' courses should be referenced. At both these stages, it was recommended that the oral interview be used as a test of oracy and that 'integrative' tests, that is, performance-type tasks, should be used to test literacy. Samples of more common tests, such as dictation and listening and reading comprehension, have been provided for diagnostic purposes during the progress of a course.

The project will conclude with the production of a video cassette and an audio cassette illustrating techniques recommended for the conduct of the oral interview.

Publications and Papers

Mills, J. M. *A Handbook on Evaluation for the 'On-Arrival' Stage of the Adult Migrant Education Program*. Hawthorn, Victoria: ACER, 1979.

PROGRAM IN SOCIAL FOUNDATIONS OF EDUCATION

Advisory Committee

Professor P. H. Karmel (Chairman), Dr T. H. Williams, Mr C. Beltz, Dr R. Maddocks, Professor K. Marjoribanks, Associate Professor M. Poole, Professor R. Selby-Smith, Dr J. G. Ainley

The research program within the Social Foundations of Education Division is defined in terms of three dimensions: its overall orientation which is towards policy research; the substantive and methodological emphases that distinguish the program from the research programs of the other two Divisions; and the structure of its research activities. The development of a program of research is considered within this framework.

Policy Research

The major thrust of the research program in this Division is towards policy research, research studies specifically designed to inform social policy decisions. This research, and the social policy it informs, are seen in broad terms ranging, for example, from the influence of test results on a teacher's decision about a student through to the influence of research findings on educational policy implemented at the national level. By contrast, discipline research, whose focus is the advancement of knowledge in a scientific discipline, forms a subsidiary component of the program and is seen as a complement to the main thrust of activities rather than the rationale for them.

The distinction between policy and discipline research does not rest on any fundamental difference in paradigm. In both kinds of research the theories and methods of one or more disciplines should guide the research. The distinction is made on other grounds.

The defining characteristics of policy research are two: the research problem originates outside the discipline, in the world of action; and the research results are destined for the world of action, outside the discipline.¹

In contrast, the research problems of discipline research arise within the discipline itself in the process of establishing, refining, extending, and testing discipline theory, and the research results are used for these purposes. Although the research findings may have policy implications, these tend to be incidental outcomes.

This distinction in emphasis has consequences also for the nature of the variables which enter the research design. Policy research must consider explicitly two categories of variables: policy manipulable variables, those that might be changed given the resources available;

¹ Coleman, J. S. *Policy Research in the Social Sciences*. Morristown NJ: General Learning Press, 1972, p. 3.

and situational variables, other causes of the phenomenon of interest less amenable to manipulation whose effects must be controlled in order to isolate the effect of the policy manipulable variables. As most variables are potentially manipulable by policy action, the distinction between policy and situational variables is made in terms of what is possible given the available resources; changes in curricula, for example, are easier to bring about than are changes in the distribution of before-tax income. Discipline research, however, is not constrained in these ways and, seeing that many policy manipulable variables are of little theoretical interest and/or have demonstrated modest effects, they are considered only occasionally.

At least four other distinctions are important. First, policy research designs are time bound. To be of use, findings, complete or not, must be available prior to the decision and, ideally, partial results should be available at several points during the course of the project. Second, policy research problems are formulated in the language and concepts of the world of action. Translation of the problem from this language into the language of the discipline and the subsequent translation of findings back again assumes considerable importance in the definition and reporting of the research. Third, in policy research the robustness of findings is all important. As a result, some of the parsimony and elegance of discipline research designs may need to be sacrificed in the interests of simplicity and redundancy, the latter to provide confirmation of results. Fourth, it is important to recognize that in the world of action there are interested parties, many of whose interests do not coincide, and that research results may change the structure of power among those parties.

Despite these distinctions there is an obvious area of overlap. Because policy research focuses on a practical problem and relies on a discipline-based research paradigm, more often than not it offers both a guide to social action and a contribution to discipline knowledge. Discipline research, on the other hand, is not constrained by the need to examine practical problems and, at least in education, seems not to have offered much in the way of specific policy implications. However, discipline research of a more general nature, such as that by Piaget in psychology, may have had marked if somewhat delayed effects on educational practice.²

Following this line of argument, we see the general orientation of the research program in the Social Foundations of Education Division as that of policy research defined by the following emphases:

- 1 the investigation of problems that originate in the 'world of action', to use Coleman's words, including not only those problems that have arisen but also those we may anticipate;

² Suppes, P. *Impact of Research on Education: Some Case Studies*. Washington, DC: National Academy of Education, 1978.

- 2 the application of the theories and methods of several disciplines to the design and execution of this research;
- 3 the explicit consideration of policy manipulable variables within a specified framework; and
- 4 the recognition that the results are destined for the world of action and are to guide an essentially non-academic audience in policy decisions.

Two Categories of Policy Research

It is useful to distinguish two research emphases within the general category of policy research, policy dictated research and policy defining research.

Policy decisions are based on a variety of rationales ranging from the need to do something under political pressure, through intuitive notions about what might cure social ills, to logically derived policy implications of established educational theory and fact. An increasing emphasis on accountability generally suggests that there will be pressure to evaluate the effectiveness of these programs, something that has not always been the case. Thus policy dictated research is essentially evaluation research, research which guides social action through re-direction and/or refinement. We anticipate an increasing need for studies which evaluate the effectiveness of educational policies, and recognize the need for the Division to develop its present capabilities in this area.

Policy defining research, however, is undertaken to provide an information base for social policy in situations where the problem is recognized but no policy action has been taken. Outside agencies, for example, the Australian Education Council and commissions of inquiry, are obvious sources of stimulus for such studies. In addition, we propose that the Division develop an in-house program designed to identify and research such problems in anticipation of guiding future policy; the Study of School Leavers is an example of a study arising from stimuli from both within ACER and from outside, in this case the ERDC Priority Area Advisory Group. Policy research of this kind is probably closer to discipline research than is policy dictated research, but again we argue for substantial overlap between both these categories of policy research and that of discipline research, and consider the distinctions as matters of emphasis only.

Two Categories of Discipline Research

Discipline research is recognized as an important component of research activities in the Social Foundations of Education Division. Discipline-based paradigms guide the policy research undertaken and thus it follows that contributions to knowledge within the disciplines are possible almost as a matter of course. The point, however, is that these contributions are a consequence of, but not the rationale for,

the research program. Two categories of discipline research studies seem plausible, spinoff studies and piggyback studies.

Spinoff studies, on the one hand, focus on secondary analyses of data collected in policy research and direct their attention to substantive and methodological issues incidental to the main purpose of the policy research.

On the other hand, in piggyback studies, the theoretical models that guide the policy research and the proposed discipline research overlap but do not coincide. They differ in terms of the ultimate independent variable, for instance, and measures of variables in the area of non-overlap are added to the measures for the policy study. Thus the investigation of discipline research issues may be grafted on to a policy research study.

Substantive Emphases

The discussion so far has not defined the distinctive emphases of research in the Social Foundations of Education Division. Rather, the level of generality of the argument has been such that the framework advanced could possibly characterize any of the three Divisions of the ACER's research program. The question of the distinctive emphasis of research in this Division remains. As a beginning, the general substantive orientation is defined in the way Inkeles defines sociology:

the study of systems of social action and their interrelations . . . single social acts, social relationships, organizations and institutions, communities and societies.³

More specifically, the *systems* of social action of interest are limited to those characteristic of educational organizations, along with education as a societal institution, and *interrelations* to those between education and institutions within the following categories: *political*—concerned with the exercise of power; *economic*—concerned with the production and distribution of goods and services; *expressive-integrative*—concerned with the recreational and leisure activities, and *kinship*—concerned with providing a stable and secure framework for the care and rearing of the young.⁴ In brief our research emphases fall into two categories:

- 1 the study of the organizational units of education as systems of social action—classrooms, departments, schools, districts, states;
- 2 the study of the linkages between education and other societal institutions.

Three overlapping but reasonably distinct categories of research can be defined in this context.

³ Inkeles, A. *What is Sociology?* Englewood Cliffs, NJ: Prentice-Hall, 1964, p. 16.

⁴ *ibid.*, p. 68.

The Study of Educational Systems

In this aspect of our research we have been influenced by a general model of schooling postulated by Spady and Mitchell.⁵ Though not fully developed, we find that this work offers a convincing general model of schooling that can map some of what we are doing currently and suggests where we might go in the future. This work falls into two general areas.

Quality of School Life

Our interest in this area is an interest in schools as environments for teachers and students. We are influenced by Jencks's observation:

Instead of evaluating schools in terms of their long-term effects on their alumni, which appear to be relatively uniform, we think it wiser to evaluate schools in terms of their immediate effects on teachers and students . . . Some schools are dull, depressing, even terrifying places, while others are lively, comfortable, and reassuring. If we think of school life as an end in itself rather than a means to some other end, such differences are enormously important. Eliminating these differences . . . would do a great deal to make the quality of children's (and teachers') lives more equal. Since children are in school for a fifth of their lives, this would be a significant accomplishment.⁶

We believe that the Spady-Mitchell model gives us a framework within which we think about the social-structural influences that determine the quality of students' and teachers' school life. A quality-of-school-life measure for students has been developed. Fieldwork with this measure is being undertaken at present. Work is in progress on developing a measure of quality of school life from the perspective of teachers.

Organizational Processes in Education

Our general concern here is with the question of resource allocation to, and within, educational systems. One stream of our thinking is influenced by Talcott Parsons's theoretical arguments about the four functional imperatives ('problems') that all social systems must resolve: adaptation, goal attainment, integration, and latency. We believe that one might think profitably in these terms about resource allocation to, and within, educational systems ranging from the classroom to state and national systems. For example, it seems that the Spady-Mitchell model, which owes a great deal to Parsons in this respect, could provide a general framework within which we might develop parts of the Staffing and Resources Study.

⁵ Mitchell, D. E. and Spady, W. G. Organizational contexts for implementing outcome based education. *Educational Researcher*, 1978, 7, 9-17.

⁶ Jencks, C. et al. *Inequality: A Reassessment of the Effect of Family and Schooling in America*. New York: Basic Books, 1972, p. 256.

Schools and Socialization

Research activities within this general category focus on the ways in which education as an institution, and schools as organizations, are affected in what they do by other societal institutions. One of our dominant interests is in the way in which the organizational structures within schools act to prepare individuals for participation in these other societal institutions. In short, we are interested in how schools socialize students.

If we think of *political* institutions, then studies of political socialization would be an example. Where *economic* institutions are concerned, studies of vocational decision-making, the development of attitudes to work, and the effects of work and school integration programs are indicative of what we are doing and of what we see in the future. Those vocational decision-making components of the Study of School Leavers project are illustrative of current work in this area.

Turning to preparation for participation in *expressive-integrative* institutions, we might think of studies of the use of, and attitudes to, leisure, research on moral socialization, and studies of coping behaviours. Where *kinship* institutions are of concern, we see examples in studies of socialization into sex roles, studies of sex education programs, of family life programs, and of the ways in which educational institutions reflect and accommodate community expectations for education.

At a higher level of aggregation, we plan to pursue an interest in the way in which other societal institutions affect the structure and operation of education at the institutional level. Such research could include: studies of the effects of demographic changes on, say, retention rates; studies of economic and labour market influences on the employment of school leavers; studies that attempt to anticipate the needs of the labour market and so influence curriculum decisions; and studies of the effects of Federal and State Government policies on educational programs.

The Enduring Effects of Education

We adopt the title of a book by Hyman et al⁷ to describe a third area of substantive interest concerned with the effects of schooling on subsequent participation in other societal institutions. The effects of schooling on performance in economic roles is of most concern currently, and the Study of School Leavers project is indicative of our interests in this category. In addition, we are interested in the study of the teaching career and the professional socialization of teachers in training, at work and outside work. A pilot study based on a follow-up of more than 3000 students entering law, medicine,

⁷ Hyman, H. H., Wright, C. R. and Reed J. S. *The Enduring Effects of Education*. Chicago: University of Chicago Press, 1975.

engineering, and teaching faculties in 1965 or 1967 (of which more than 1200 entered teaching) is underway currently and offers some possibilities in this respect. For the other institutional categories, we could consider, for example: the effects of schooling on political participation and knowledge; the effects of schooling on leisure and on participation in cultural activities; and the effects of schooling on family environments and, through these, on the next generation.

Methodological Emphases

The fact that our substantive concerns are with patterns of social processes within systems ranging from the classroom to the state, and with the patterns of social relations that link education to other societal institutions, dictates an emphasis on non-experimental research designs. For the most part the analytic units dealt with are not amenable to experimental designs requiring randomization.

Thus, two methodological emphases dominate Social Foundations of Education (SFE) research:

- 1 studies of a quantitative nature based on survey research designs;
- 2 qualitative studies involving detailed observation under case-study conditions.

These methodological emphases have clear implications. Since experimental controls are generally not available, attention must focus on statistical controls. Given this, we must be prepared to specify all of the important influences on the phenomenon of interest, and the functional form of these influences. It follows then that the research undertaken must have strong foundations in established social theory and fact. It is this body of theory and fact that defines the situational variables, and perhaps some of the policy variables as well, to be examined in a study.

We see quantitative and qualitative studies as complementary emphases within the research program. While both modes of inquiry have the potential to provide generalizable findings, the resource demands of the qualitative studies usually limit them to small non-representative samples. Their role then is to provide the rich observational detail that suggests explanations for the more gross effects observed in the quantitative survey work, and to advance propositions for subsequent research. Policy recommendations based on such studies must be tentative. On the other hand, although they often involve fairly coarse measures, the findings of the survey research designs are generalizable and we would have greater confidence in predicting, or measuring, the effects of policy using these data.

While these will certainly represent the major methodological emphases for the near future, the possibility of building on the findings of these non-experimental designs to develop more exact tests of hypotheses through experimental designs, more likely quasi-experi-

mental designs of the planned variation kind, remains a distinct possibility. However, the difficulties and high costs entailed in such studies are well known. Perhaps with the co-operation of other educational authorities, evaluative studies of educational innovation and social experiments might be envisaged in the future.

Research Services

In addition to doing educational research, the ACER provides assistance to others engaged in the same enterprise. We consider now the form of these services and the commitments they entail.

Degree Research

Within the limitations imposed by the policy emphases in the Division, it seems that we could offer post-graduate students both the experience of working as part of a team conducting large-scale survey research, and the data from this research for use in the preparation of a thesis.

Data Sharing

These same opportunities for data sharing could be made available to educational researchers in general. However, there are obvious problems and these suggest the need to proceed with some caution in order to maintain the integrity of the primary study and to avoid becoming overcommitted in this service activity. However, the possibility of rationalizing expenditure on research and the burden on schools in this way is appealing.

A General Educational Survey

Some thought might be given to the feasibility of a general educational survey along the lines of the general social survey conducted by the National Opinion Research Center. This survey would have a common core of items providing for continuity from year to year and researchers would have the opportunity to add specific questions to this core from time to time. On completion the data would be made available generally.

A Research 'Task Force'

The idea of a 'task force' available to work intensively on short-term projects and at short notice has been raised. We see the research activities of such a group involving, in the main, secondary analyses of existing data, and not major data collection projects. Work of this kind has contributed to the findings of recent committees of inquiry. The major problem to be overcome is that of integrating the activities of the task-force members into the ongoing research program when they are not engaged in task-force work, which, presumably, will be more often than not.

A Structure for Research Activity

We have found it useful to think more specifically about these activities in terms of a typology of research studies. One dimension of the typology is defined by the activities discussed so far, the other by the research designs we might use. We have expressed the research design in terms of the type of data it would depend upon:

- 1 primary data—new data gathered to address a specific research problem;
- 2 secondary data—existing data used to address research issues through secondary analyses;
- 3 follow-up data—a combination of 1 and 2 produced by longitudinal studies that add new data to existing information;
- 4 tertiary data—existing theory and fact found in the research literature of the field.

Thus, it becomes possible to think of the underlying structure of the research program in the form of an eight-by-four activities-by-data matrix. The form of the matrix is shown below and those cells in which studies are currently being undertaken in the division are numbered. Cells marked by an asterisk identify research activity either less likely or illogical; for example, piggyback studies with secondary data. Cells which are blank identify areas where research studies might be undertaken in the future.

An Activities-by-Design Typology of SFE Research

ACTIVITIES DIMENSION		DESIGN DIMENSION			
		Primary data	Secondary data	Follow- up data	Tertiary data
Policy research	policy dictated	1	2		*
	policy defining	3	4	5	6
Discipline research	spinoff studies		7	8	*
	piggyback studies		*		*
Research services	degree research			9	
	data sharing general educa- tional survey research task force		10		*

* Less likely or illogical research activity.

This structure provides a framework within which to think about research in particular substantive areas, and allows us to map present and future research studies. Examples provided by current research in the Social Foundations of Education Division and allied areas are

listed below and recorded in the matrix. Not all studies being undertaken in the Division are listed.

- 1 Evaluation of Education Programs for Unemployed Youth
- 2 Social Indicators of Educational Achievement
- 3 Staffing and Resources in Australian Schools
- 4 Participation in Early Childhood Education Programs
- 5 A Survey of School Leavers
- 6 The preparation of the *Australian Education Review*—From School to Work: A Review of Major Research in Australia
- 7 Home Environment and Student Achievement
- 8 Professional Socialization of Teachers
- 9 Career Planning and Guidance
- 10 Provision of information for the Victorian Enquiry into Teacher Education.

EVALUATION STUDIES OF PARTICULAR POLICIES AND PROGRAMS

Evaluation of Education Programs for Unemployed Youth

Graeme D. Hubbert

(This project is funded by the Commonwealth Department of Education.)

This study of the Federal Government sponsored Education Program for Unemployed Youth (EPUY) commenced in September 1978 and the final report will be completed in December 1979.

The principal purpose of the program is to improve the employability of participants and it is directed at young people for whom low educational standards form a major barrier to obtaining stable employment. Participants must be under 25 years of age, have been away from full-time education for at least four months in the last 12 months, and have been registered for employment with the Commonwealth Employment Service for not less than a total of four months in the past 12 months or can show evidence of being unemployed for that period.

The programs are conducted in conjunction with the TAFE authorities in each State. They range in length from six weeks to 20 weeks and are required to contain the following basic elements: literacy; numeracy; counselling; vocational and job-seeking skills.

The purpose of this study is twofold. The primary objective is to evaluate the effectiveness of EPUY in achieving its stated aim of improving employability. A secondary objective is to study unemployed school leavers with a view to learning more concerning their

educational, vocational, and personal needs. Of necessity, EPUY has explored alternative educational processes in order successfully to present education to young people who have left the formal education system before completing their secondary schooling.

The research techniques employed in this study use information concerning the programs, the participants, the staff, and the administrative structures required to operate the programs. Quantitative data are being collected by surveys administered to participants on commencement and on completion of a program. A further survey is being administered to samples of the total target group through the offices of the Commonwealth Employment Service. Course co-ordinators are being asked to complete a questionnaire to obtain information concerning the staff and the content of the program. The instruments used in the study of the participants investigate reading, writing, mathematics, job-seeking, and practical reasoning skills. Participant attitudes such as self-esteem, powerlessness, and attitudes to work and further education and to EPUY have been studied. Qualitative data concerning participants, staff, and administration are being obtained by personal interviews with persons in these categories.

It is too early to suggest any of the possible outcomes of the study. All efforts are now being concentrated on preparation of data, initial data analysis, and compilation of an interim report to be submitted to the Commonwealth Department of Education in mid-August. Detailed data analysis will then be undertaken in preparation for the final report in December.

A significant feature of the study which must not go unrecognized has been the valuable co-operation of the TAFE authorities in South Australia, Victoria, New South Wales, and Queensland. The support given to the study by TAFE personnel has been a critical element in determining the potential success of the study. Similar degrees of co-operation have been experienced with staff of the Commonwealth Department of Education and the Department of Employment and Youth Affairs.

Staffing and Resources in Australian Schools

John G. Ainley, John P. Keeves, Phillip McKenzie, Andrew Sturman, Trevor H. Williams

(This project is funded in part by grants from the participating education departments, through the Australian Education Council, and in part from the Core Grant.)

This study has been commissioned by the Australian Education Council as a co-operative investigation of the allocation of staff and resources to government schools in New Zealand, each Australian State and the

Australian Capital Territory. The investigation is a collaborative venture between the ACER and the various education departments. A Steering Committee is responsible for the study, a Reference Committee provides assistance in identifying issues and suggesting priorities, and a Technical Committee helps with technical issues involved in the project and provides liaison with each education department.

The investigation will examine:

- 1 existing policies, procedures, and trends relating to the allocation of staff and resources to schools;
- 2 difficulties faced by school systems in allocating staff and resources to schools;
- 3 the practices of individual schools concerned with the problems of allocating staff and resources within the schools;
- 4 measures currently being taken to overcome difficulties encountered by schools and school systems;
- 5 the views and opinions of teachers and students on differing policies and practices associated with the allocation of staff and resources to and within schools; and
- 6 new developments and alternative arrangements for staffing schools which already exist.

By examining practices and policies of the education systems under review, it is hoped the study will be able to suggest:

- 1 action which can be taken by schools and systems to improve existing arrangements;
- 2 field studies, or research projects, which schools and systems can carry out to improve the effectiveness of methods of allocating staff to schools; and
- 3 future directions for policies and procedures concerned with the allocation of staff and resources to schools.

Since the project commenced in February 1979, a plan for the study has been developed and discussed by the Steering Committee, the Reference Committee, and the Technical Committee. In brief that plan envisages three facets to the investigation. The first of these is a study of the policies of the education systems. With general co-ordination from the ACER, each system has been asked to prepare a system case-study report which describes present policies and practices with respect to staff allocation, identifies important problems, and outlines innovative practices. A format developed by ACER is to be used to guide the reports but has been so prepared that it does not preclude discussion of issues unique to any system. This format has been designed in collaboration with the Technical Committee. When the reports are returned at the end of 1979, ACER staff will prepare an overview.

The second facet of the project comprises a nation-wide survey of policies and practices employed by schools. It is planned to survey

about 50 primary and 50 secondary schools in each system, by means of a questionnaire to be completed by the principal or deputy-principal of each school. A trial form of a questionnaire has been developed covering seven sections: background data, resources available, resource usage, aims and goals, decision-making processes, school curricula, and problems and solutions related to resource allocation. The questionnaire will be subjected to trial in each system by members of the Technical Committee, preparatory to being mailed to schools at the beginning of third term.

The third facet of the project involves the study of some outcomes of different resource allocation patterns. One aspect of this will make use of case-study methods to look in detail at how schools function. Another will involve an examination of students' and teachers' perceptions of the quality of their school life. A third aspect will link resource patterns to selected cognitive outcomes in combination with other ACER projects.

In addition the project will be linked to two other ACER studies: one involving an economic analysis of resource allocation strategies; and another involving a study of the opportunity costs involved in teachers' use of time.

TAFE Pre-Vocational Education Project

John G. Ainley and Adrian M. Fordham

(This project is funded by the TAFE Council.)

This project has been concerned with developing an approach to the evaluation of full-time programs of work preparation in TAFE which have been advanced as a potential solution to problems in a variety of interrelated areas: manpower demands; apprenticeship training; school curricula; and the transition from school to adult life. In the study of evaluation methods appropriate to these programs, attention has been focused on the issues associated with the transition from school to adult life. The stated intentions of these programs have included considerations of the interest and abilities of students to whom they were directed, the provision of a learning environment similar to the world of work, and the desired outcomes.

Methods have been developed for obtaining and analysing information about students' entry characteristics, the teaching processes and the learning environment they experience, and assessing such outcomes as career maturity, self-esteem, and technical competence. In addition consideration has been given to longer-term outcomes such as employment rates, job stability, and job satisfaction. Techniques which

have been used in the study have included interviews, observation, questionnaires to students and teachers, and follow-up studies of former students.

In the study of these programs, a broad view has been taken of evaluation. The different purposes which can be served by evaluation in planning new programs, developing appropriate materials and methods, implementing new programs, and revising existing programs have been considered together with forms of evaluation appropriate to these purposes. Attention has been given to the different roles which evaluation could serve as part of the development of a program or in reaching a final judgment about the effectiveness of a program. The approach to program evaluation has been based on a general framework incorporating three important elements: background factors; processes; and outcomes. In the evaluation, background factors included the characteristics of students and teachers as well as the context in which the program operated; processes were the teaching methods and curriculum-related activities which took place in the program; and outcomes were the changes in the students, teachers, or other participants to whom the program was directed. It was necessary to consider both immediate and long-term outcomes. Immediate outcomes referred to the practical skills, knowledge, and attitudes developed by students at the conclusion of their course. Long-term outcomes referred to the level and type of employment obtained, job stability, and job satisfaction.

The approach to the evaluation of pre-vocational education has been tried in four newly developed programs which attempted to simulate the conditions of a young person at work. A report on the methodology has been completed and a report for restricted distribution outlining some of the results obtained is being prepared.

Publications and Papers

Ainley, J. G. and Fordham, A. M. *Between School and Adult Life*.
Volume 1. Hawthorn, Victoria: ACER, 1979. (mimeo.)

TAFE Staff Development Evaluation Study

Adrian M. Fordham and John G. Ainley

(This project is funded by the TAFE Council.)

This project has been concerned with examining methods of evaluating staff development (in-service) programs in the field of technical and further education. These programs were produced by the state TAFE authorities and the individual TAFE colleges. An examination of

three elements, background factors, processes, and outcomes, was undertaken. Firstly, consideration was given to the intended and actual characteristics of the participants in a staff development program. The participants were individual staff members, the colleges, and also the state TAFE authorities. Examples of relevant characteristics included specialist and teaching qualifications of staff and structural characteristics of the system. In addition, an analysis of needs of both individual staff members and their institutions was considered important. The relevant processes were more easily identified and focused on procedures for the administration of the program and the specific types of staff development activities (e.g. industrial leave). The establishment of the evaluative criteria, or outcomes, on which to judge the effectiveness of a program or specific activity was a most difficult task. For not only were there short-term and long-term outcomes, but certain goals were directed towards the effectiveness of the organization as a whole, while others were more relevant to the teaching effectiveness of the individual staff member. Even within this dichotomy, some outcomes would be considered extremely important and others of less importance, by the various participants, organizers, and administrators of programs. It was necessary therefore for the evaluation study to take into account the different priorities and values that each group of people held for the goals of the program.

This approach to the evaluation of staff development was applied to two state staff development programs and to a variety of types of activities or strategies which constituted those programs.

Publications and Papers

Fordham, A. M. and Ainley, J. G. *Staff Development in Technical and Further Education*. Hawthorn, Victoria: ACER, 1979. (mimeo.)

NATIONAL STUDIES OF EDUCATIONAL OUTCOMES

A Survey of School Leavers

Trevor H. Williams, Margaret Batten, Andrew Sturman, Jeffery J. Clancy, Susan Girling-Butcher

(This project is funded in part by a grant from the Education Research and Development Committee, and in part from the Core Grant.)

This project comprises a follow-up study of the national samples of 10-year-old and 14-year-old students who took part in the 1975 Australian Studies in School Performance, and some 13 000 individuals in all.

Australian research on the transition from school to work has been reviewed and synthesized as part of this project. The review is divided into three major sections: the first focuses on the antecedents of vocational decisions; the second, on the process of vocational decision-making itself; and the third, on the consequences of vocational decisions as these are manifest in outcomes such as status attainment and quality of life.

In December 1978 questionnaires were mailed to approximately 6200 14-year-old students (in 1975) who took part in the ASSP study. A response rate in excess of 80 per cent has been achieved. The information elicited from respondents included level of schooling attained, details of current employment, unemployment, schooling, educational and occupational expectations. A questionnaire has been prepared to send to a nationally representative sample of 1250 of the respondents to this Basic Information Survey. The questionnaire is designed to provide information on critical points in school experience and their long-term effects; the linkage between educational attainment and post-school options; the influence of social-structural variables (e.g. social background, sex, ethnic origin, geographical location) on school and post-school achievement; and the effects of the structure, timing, and content of secondary education on the post-school experiences of school leavers. These individuals will be surveyed at regular intervals over the period 1979-80 in an attempt to document the process of career formation among Australian youth.

A study of the development of vocational decisions uses a sample of high school students. The students in question are a sub-sample of the 6000 10-year-old students (in 1975) who participated in the ASSP study. Fifty of the 272 primary schools involved in that study were selected for the present investigation, and the 1100 students from these schools were traced to the secondary schools they are now attending. All but six of these 250 secondary schools have agreed to administer two questionnaires each year to these students during 1979 and 1980. A measure of 'quality-of-school-life' analogous to established quality-of-life measures has been developed. This multidimensional instrument is the basis of a questionnaire sent to the 1100 secondary school students. A similar questionnaire will be mailed to a parallel subsample of 1250 18-year-old persons involved in the Basic Information Survey.

Publications and Papers

Sturman, A. *From School to Work: A Review of Major Research in Australia*. (Australian Education Review No. 13). Hawthorn, Victoria: ACER, 1979.

Williams, T., Batten, M. and Girling-Butcher, S. The quality of school life. Unpublished ACER discussion paper, 1979.

Social Indicators of Educational Achievement

Kenneth N. Ross

(This project is included in the ACER Core Program.)

This study is concerned with the development and validation of several indicators of educational achievement based on census-derived demographic variables. The achievement measures are the tests of basic skills in literacy and numeracy obtained from the national survey of Australian 10-year-old and 14-year-old students in 1975.

Each sample member in the ACER study has been linked to his/her census collector's district with the aid of census maps, street directories, and telephone directories. This has enabled the development of a large computer file of data which contains, for each sample member, the basic skills information and a complete census description of the community in which the sample member lives.

The magnitude of the data manipulation tasks involved in this exercise has required the assistance of computer specialists from the CSIRO Division of Building Research and also the co-operation of the computer staff and management of the ICI (Australia) company. The ACER is extremely grateful for the assistance it has received with this work.

The census information in its raw form provides 'count' information and therefore, to adjust for variations in the geographical and population coverage of collectors' districts, a great deal of recoding of information has been required in order to be able to study the behaviour of variables independently of community size.

The next stage in the study will be concerned with the preparation of several indicators, based on the characteristics of the communities in which the students live, which are optimally correlated with the students' educational achievements. These indicators will be developed using schools as the units of analysis. The validation of the indicators will be undertaken by comparing the degree of 'leakage' (the precision obtained in the identification of educational achievement levels) for the indicators developed.

STUDIES OF THE EDUCATION OF SPECIAL GROUPS

Studies of Unemployed Youth

Jeffery J. Clancy and Trevor H. Williams

(This project is included in the ACER Core Program.)

This project is addressed to a number of issues of youth unemployment. These fall into three broad areas: the relationship between

education and unemployment; the social and psychological consequences of unemployment for youth; and the effect of prolonged unemployment on subsequent career development. The study began during 1978 and will be completed early in 1981.

There have been very few studies in this area in Australia and one of the major problems in this work lies in finding a representative sample. It has been estimated that between 10 and 30 per cent of the young unemployed are not registered with the Commonwealth Employment Service and are thus very difficult to reach. The present study draws upon a sample of 17- to 18-year-old persons from the follow-up studies of the former 14-year-old student sample from the Australian Studies in School Performance (ASSP). The data on student background and educational performance are available and can be used to develop a longitudinal design. A self-weighting sample of 1250 students has been selected.

During 1978 the home addresses of the entire ASSP sample (some 6200 students) were updated and mounted on computer file. In conjunction with the Study of School Leavers, a Basic Information Survey was undertaken and a questionnaire was sent to all students. The survey collected information related to current occupation, employment status, date of leaving school, educational attainment and background, as well as data on parents' occupation and education. The response has been excellent, in excess of 80 per cent, and a first report will be available shortly.

A second questionnaire is currently being prepared for the next phase of the study. This will be sent to a subsample of 1250 persons and will allow us to update our information on their employment status and provide the basis for selecting a group for interviewing, which will be undertaken early in 1980. This group will be largely composed of the unemployed members of the subsample but will also include respondents from other groups to provide some comparative information.

The Employment of Graduates and Diplomates of Colleges of Advanced Education

Warren B. Jones

(This study is funded by the Victoria Institute of Colleges through a grant from the Malcolm and Anna Moore Estate.)

In the past, graduates and diplomates from Australian universities and colleges of advanced education have experienced little difficulty in finding suitable full-time work soon after completing a course. Recent studies have shown that this situation has changed considerably.

In early 1978 the proportion of new graduates and diplomates who were still seeking full-time employment approximately six months after completing a course was almost double the average Australian workforce unemployment rate at that time. Although almost half of this group of new graduates and diplomates had some form of employment, either casual or part time, they could be considered to be misemployed. It could be expected that almost all new graduates and diplomates would eventually find work but it is not known how long this process takes or if the work found is in the new graduates or diplomates' field of training or within their expectations.

This project seeks to provide additional data on unemployment rates for college graduates and diplomates, but more importantly to define unemployment in terms of the time taken to find work, the nature of this work, and career and work expectations. The study has been limited to colleges of advanced education affiliated with the Victoria Institute of Colleges and excludes graduates of teacher education, law, forestry, and agricultural courses as well as graduates from associate diploma courses.

The career and work expectations of graduates and diplomates (from 1975 and 1977) will be compared with those of current first and final year students in order to determine the nature of changes over the last few years.

The attitudes and recruiting techniques of employers of college graduates and diplomates will be surveyed and comparisons made with employers affiliated with three large employer organizations in Victoria as well as with employers who do not employ graduates and diplomates.

The samples of graduates/diplomates and students have been selected and the administration of questionnaires is in progress. The design of the employer samples is still being considered.

It is anticipated that the project will be completed by January 1980.

PROGRAM IN MEASUREMENT AND EVALUATION

Advisory Committee

Professor D. Spearritt (Chairman), Mr L. D. Blazely, Professor J. A. Keats, Professor B. McGaw, Mr R. S. Warry, Dr G. J. Whitehead, Mr J. F. Izard, Mrs H. A. H. Rowe, Mr G. Morgan

The research and development program in the area of measurement and evaluation has been based on several propositions.

- 1 Evaluation of educational processes and human development is necessary:
 - to extend knowledge of individuals and their interaction with home, peer group, and school influences;
 - to assess the impact of changes to learning environments in schools, industry, and elsewhere; and
 - to provide students, their parents, teachers, and counsellors with information which will assist in developing desired skills and in making appropriate educational and career decisions.
- 2 Evaluation as described above requires valid data, and instruments which may provide these data in reliable ways should be developed. Relevance should be established for the population of interest.
- 3 The development of valid and reliable instruments requires a high degree of technical skill. Therefore efficient and effective procedures should be advanced, maintained, and improved in line with new research information. These procedures should include provisions for monitoring the quality of the product.
- 4 The provision of appropriate instruments should be supported by technical advice to promote:
 - the choice of relevant instruments where a range is available;
 - an understanding of the measurement process; and
 - the making of valid decisions by students, parents, teachers, and counsellors.

If users cannot be assumed to have sufficient background, then instruction should be provided to enhance that background. This is particularly important when new approaches are introduced.

- 5 The interpretation of scores is crucial in the proper use of instruments. Accordingly, assistance in interpretation is an essential component of each instrument package and should include:
 - advice as to proper use, with supporting information;
 - cautions about potential misuse;
 - suggestions for users to encourage review of the impact of the instrument in use.

This assistance is particularly important where the instrument remains the same after a program takes a new direction since the validity of the instrument may not hold for the new purposes of the program.

- 6 The information provided to the ACER by individuals in both trial and final versions of instruments is confidential and procedures should prevent unauthorized disclosure. Further, information linking codes to names must be kept secure, and information judged to be out of date should be kept as archives or destroyed as considered appropriate.

Since the ACER program of research and development is concerned with evaluation in all three Divisions, the program in the Measurement and Evaluation Division emphasizes measurement aspects of evaluation and seeks to serve the other Divisions in their use of measurement in programs of evaluation and research.

Areas for Research and Development

In reviewing the program in Measurement and Evaluation in terms of these propositions, a number of major areas for research and development have been identified. Although those areas overlap and are interrelated to some extent, each is of sufficient importance to warrant specific mention. These areas are:

psychometric models; procedures for development of instruments and associated materials; instruments for assessing achievement; instruments for assessing aptitude; testing service programs; maintenance of expertise and implementation of new developments; and dissemination of research findings.

Each of these areas is an important aspect of the work of the ACER and, within each area, certain priorities seem appropriate. Some of these issues are now taken up in more detail.

Psychometric Models

Theoretical advances in psychometrics have been considerable in recent years. The traditional models based on the normal curve theory have been developed to a high degree, and advances in statistics and latent-trait and information theories have clarified both the assumptions and implications of the various models. If it is accepted that new approaches will not replace but rather modify and complement the traditional approaches, then some work at the ACER should be directed towards extending our knowledge of these theories and procedures, particularly as standards for publication of psychological and educational instruments are being modified in the light of these and other new developments. Moreover, test constructors and publishers are under increasing public pressure to be accountable. Schools are reacting to similar pressures and evaluation of learning processes and curriculum outcomes is receiving a stronger emphasis. It would be unfortunate if instruments developed for use in such evaluation studies did not have acceptable psychometric properties since both the particular conclusions and the availability of funds for further evaluation

would be under threat. Consequently the ACER research studies should include investigations into the robustness of new developments and implications for the development of instruments, preparation of norms, implementation of test materials, and review of practices after implementation, so that undesirable outcomes may be recognized. One such area of study might be computerised adaptive testing.

Adaptive or tailored testing combines Bayesian statistics and latent-trait theory to allow ability to be measured over a very wide range using a limited number of items from a larger item bank. When a small computer or a new generation microcomputer is used as the vehicle for storing the routines, item banks, and results of each individual administration, substantial savings are possible because printing of tests and storage, distribution, and scoring costs are reduced or eliminated as separate stages in the sequence between preparation of the final instrument and reporting the scores.

Several working systems are being used in the United States of America. Each uses the three-parameter latent-trait model developed by Birnbaum and Lord. The Educational Testing Service version has many options to permit use of different item banks, to vary feedback on the responses during testing, and to vary the level of testee interaction with the key board. The Office of Personnel Management (Civil Service Commission) version provides for initial calibration and re-calibration in the light of continued use, trial of new items which are then equated with those in the item pool, and testing until a desired standard error of measurement is achieved.

The ACER needs to maintain contact with this field and to conduct some studies because:

- 1 it is an amplification of work already being done on latent-trait theory, Bayesian statistics, equating of scores, and response times;
- 2 operational systems are being prepared for Public Service and/or Armed Forces selection purposes in the United States of America and Britain, and this will result in the ACER being asked for advice about Australian versions of such systems when information from overseas reaches corresponding Australian authorities.

It is likely to be expensive to set up the initial bank of calibrated items with their parameter estimates but existing data tapes might be reprocessed with appropriate safeguards.

Procedures for Development of Instruments and Associated Materials

It is clear that the ACER has a dual role in measurement and evaluation. One aspect involves the development of methodology for our own staff, to apply in devising instruments for trial and refinement. The other aspect involves development of methodology for others to use. It seems naive to expect new methodology to be used by others

if we do not provide or encourage some training which explores the rationale and technical procedures involved.

The procedures used at the ACER for construction, trial, analysis, and publication of tests and for technical information have been developed over an extended period. The approaches have been soundly based, although some techniques may be in use without the knowledge and experience of the staff who originally implemented those techniques. Consequently, it is seen as necessary to review, over the next six months or so, all the current procedures so that the benefits of experience are not lost because of changeover of staff, and to facilitate inclusion of more recent developments where considered appropriate. The rationale and the details of both old and new procedures need to be documented.

Studies are needed to develop in-house procedures for more sophisticated item and test analyses. These procedures should include latent-trait models, determination of cutting scores, and validation of test items against performance criteria. The influence of a cluster-sampled trial population on each of these procedures needs careful analysis, since access to large numbers of schools may be expensive and administratively inconvenient. The development of equating procedures which may be applied routinely in some testing programs is another concern.

Recent research overseas into criterion referenced measurement of achievement has raised at least two serious problems. Firstly, how is the desired standard to be defined? Secondly, given a particular standard, how is achievement of that standard to be recognized? That is, which combinations of success and failure on items denote acceptable performance?

A number of studies have been undertaken in the United States to investigate such questions as 'How many items have to be correct before I will revise my initial assumption that this student had not mastered this skill?' and 'Given a group of students who are barely proficient, what is the probability that a given item will be correct?' Answers to these questions may be influenced by knowledge of the relative costs of incorrect decisions. Advice given in a test manual will need to include discussion of these issues. Since the setting of a standard implies judgment, further research is needed to validate the judgment process against other evidence. This is seen as essential in the ACER context as the use of experienced judges implies that this experience has provided each judge with some form of realistic expectation. Perhaps further experience will be gained by each judge when these unsystematic judgments are compared with actual performance samples gathered in a systematic way. Another complexity is that one group of expert judges may not achieve consensus with another group of judges. These problems in the identification of mastery are made more complex by the related issues of retention

and transfer. If mastery is required at a later time, then differential retention rates might imply different cutting scores for particular individuals or some change in the sequence of instruction and time scale for testing.

It seems appropriate to carry out a number of studies where classroom observations of performance, judge's assessment, costs of misclassification, and item performance are assessed independently as far as possible. Since misclassification is most obvious where decisions by one procedure contradict decisions by another, one type of decision should not be allowed to contaminate another. These studies should be complemented by investigations of particular procedures and their contribution to improved performance. For example, judges with different degrees of expertise as assessed in one study might be employed in another study to investigate the transferability of the expertise.

A further series of studies is needed to investigate the implications of cut-off scores used in classrooms, since very few studies have been conducted into the effects of such procedures on classroom practice. The appropriateness of the usual standard error of measurement has been questioned, and the conditional standard error at the cut-off would appear to be preferred. Where different cut-offs may accentuate bias for sex or ethnic groups, new approaches may have to be developed. Without studies of this type, the ACER would have difficulty in justifying the advice which should be included in test manuals.

Instruments for Assessing Achievement

The ACER has had an important role in preparing achievement tests for use in early school years, and in primary and secondary classes. The development of instruments for use in special circumstances has received less emphasis. However, with the ACER's current interest in evaluation of curriculum at all levels, research and development into instruments for use with children with learning problems would appear to be a next step. Assessment at entry to vocational training, monitoring of progress through training, and licensing or certification are areas where the ACER needs greater expertise particularly as our advice is likely to be sought more frequently for the reasons outlined above. Extending the program into this area would not be a marked departure from existing programs because of the ACER's involvement through Advisory and Testing Services and because some assessment concerns, at point of entry to vocational training, relate to literacy and numeracy as well as interests and personal characteristics.

Instruments for Assessing Aptitude

Development and sale of instruments for assessing aptitude has been an important aspect of the ACER's work. There are several opportunities to adapt new versions of overseas instruments for local

purposes but this will not avoid the substantial costs involved in obtaining norms. Our local experiences in such norming and our acceptance by Australian schools are important factors in maintaining our position as a national body.

The ACER's own test research and development should not be reduced in order to prepare such adaptations. The ACER's aim should be to provide clients with a choice of valid instruments rather than have such a limited number that an individual may do the same test five or more times when applying for different positions.

Areas receiving increasing attention in the United States of America include identification of gifted children, cognitive processing including relating aptitude measures and cognitive factor measures to task performance, and extending the general ability tests beyond the traditional verbal and quantitative dimensions. These areas should continue to receive attention in the ACER's program.

Testing Services Programs

Provision of such programs has been a substantial part of the ACER's endeavours in recent years. It would appear that the ability to respond to requests for such services, if acceptable on ethical and professional grounds, is a function of the pool of available measures and the ease with which instruments of known characteristics can be constructed from these measures. The ASAT Special Testing program is an appropriate example. Because data from previous administration were accessible, estimates of various parameters could be made for the new versions. With economic pressures increasing, the re-use of items becomes more likely, and this is an additional reason for reviewing systematic procedures for test construction and analysis. In providing such services to local and regional administrators within education departments, the ACER is able to advise on appropriate uses of tests and test evidence and to effect economies in such programs by avoiding collection of useless information. The present tendency of these administrators to seek advice on the use of existing ACER tests in a systematic way should be encouraged.

Test Scoring Services

The provision of test scoring services for schools in the United States of America has been a significant development and there are signs that psychologists will be using such services to a greater extent. Many such services offer a basic system which scores responses on mark-sense sheets of some form or other. In some cases the response sheets are generated by the student taking the test while in other cases the teacher is required to code the responses made by students on to a separate mark-sense sheet. The basic system generally provides a listing of students in alphabetical order with each raw and scaled sub-score

and total. Some scores are reported in terms of national norms while others are reported in terms of the sample group or groups attempting these tests on this occasion. The listing is followed by summary statistics for the class, school, or region in terms of scaled score including standard errors of measurement and stanine distributions related to the national reference group. In some cases an additional listing in order of total score may be provided. In addition to the basic system, users may request additional options, usually at extra cost. These options may provide:

- 1 responses made by each child, with a plus (+) replacing the correct response—omitted items are either left blank or shown, with a zero;
- 2 an individual student report for each student showing graphically the performance of that student relative to national norms and the proportion of items correct in each of the clusters of items, where clusters represent domains of interest—sometimes a version of this report is generated for the student's parents;
- 3 a summary report illustrating in graphical and numerical forms the performance of particular groups or classes on each test, relative to national norms;
- 4 pressure-sensitive gummed labels for each student which may be attached to a student record card retained within the school—in general this information is summarized from the individual student report;
- 5 a class report describing each item, summarizing the numbers of children choosing each option, and comparing the class performance with the national reference group.

In some cases, with appropriate planning, results for individuals from one test administration can be merged with results for the same individuals on a later administration and the pre-test and post-test differences compared with national reference group differences under similar circumstances.

The investigation of the feasibility of whether the ACER should offer such a service is seen as a matter for early attention, particularly as these options may be added to programs developed for in-house analysis of trial tests. This investigation should consider:

- 1 the conditions under which such a service might be offered including confidentiality and costs to the ACER and the user;
- 2 arrangements to be made for receipt of answer sheets and/or test booklets, processing of data, quality control checks, return of responses, and reports;
- 3 provision for storing in secure fashion the data to facilitate further analysis—such analyses may provide up-dated norms or may provide comparisons for a particular district;

- 4 provision of a limited service to schools so that the practical feasibility and marketing possibilities may be assessed under realistic conditions;
- 5 a study which assesses benefits and disadvantages of computer analysis as compared with approaches which use carbonless paper automatic scoring keys;
- 6 mechanisms for a school to include responses to their own tests in the scoring procedure; and
- 7 the format of reports and the associated guides to interpretation for the various audiences.

Maintenance of Expertise and Implementation of New Developments

The development of expertise in measurement and evaluation is an expensive process which suggests that the experience gained should be shared with others. This sharing process may be restricted to staff development programs within the ACER, but the implementation of new procedures is more likely to be successful if such instruction is extended to a wider audience. Although the ACER has traditionally provided some postgraduate courses at the University of Melbourne, provision of some other alternatives seems desirable for other States. The ACER role is seen here as interpreting research into the measurement process, to assist in the dissemination of this research and to encourage practitioners to incorporate recent developments into their programs.

Experience in the United States of America has suggested that teachers make little use of information, provided by an outside measurement expert or psychologist, to rectify the deficiencies exposed by the testing. When evidence has been given that help is needed by particular children, the next request is for a program which will provide the help. By contrast, a teacher who makes the decisions on the choice of a suitable test is more likely to be aware of action that might be taken when results are available. I believe this pattern is consistent with Australian experience, at least as observed by Advisory Services Staff and by those involved in in-service training. Although extending the measurement skills of teachers and encouraging incorporation of the evidence-gathering techniques into instructional decision making will not be a panacea for such problems, implications of criterion-referenced models, latent-trait models, and adaptive testing will be missed completely unless there is some positive effort to overcome this ignorance. It would seem desirable for the ACER to take two particular initiatives, in addition to existing plans for ACER staff development:

- 1 Convene workshops for tertiary staff involved in teacher education programs so that these and other developments may be discussed. Without such an initiative, each group of exit students enters the

profession with little knowledge of recent developments because their lecturers have not improved their knowledge in the area.

- 2 Convene workshops for curriculum consultants who are based in regional offices. Such workshops would serve several purposes including:

assisting consultants to bring teachers in the field up to date on recent developments;

making consultants and regional administrators aware of ACER services; and

facilitating the transfer from state-wide ordering procedures to regional ordering, which has been a tendency in both Australia and the United States.

Dissemination of Research Findings

It is important to recognize the ACER's unique position within the Australian context. Many important studies carried out at the ACER have implications for theory, policy, and professional practice in psychology and education. Since most of the Measurement and Evaluation Division staff are committed to the preparation of project reports, research publications tend to be overlooked. My impression is that much valuable work at the ACER remains hidden, and at least some of the results of the ACER research and development needs wider dissemination by publication perhaps in microfiche form.

It is clear that much of the program in Measurement and Evaluation involves providing soundly based materials for use by teachers and psychologists, and providing testing services which are appreciated. It is also clear that there have been many recent overseas developments in both policy and of a technical nature, and we need to examine such developments carefully to determine their relevance for Australia.

THE DEVELOPMENT OF TESTS AND EDUCATIONAL MATERIALS FOR USE BY TEACHERS AND GUIDANCE OFFICERS

School Achievement Tests

Sidney F. Bourke, Stephen Farish, Barbara Johnson, Graham Ward, John White, Mark Wilson

(This project is funded by ACER's income from sales. Mr Farish and Mr Wilson are seconded from the Victorian Education Department.)

This project is concerned with developing tests over a wide range of subject areas for use in primary and junior secondary school class-

rooms. Since work began at the end of 1978, several developments have occurred to extend the program. Initiated by the ACER, the project has now been developed into a co-operative venture involving researchers and teachers from the Australian Capital Territory Schools Authority and the education departments of New South Wales, Victoria, and Western Australia and the ACER.

Two complementary types of test are being developed for classroom use. These have been termed Progress Tests and Review Tests. Both types of tests will be criterion referenced. The performance of students will be measured with respect to tasks which are related to clearly specified objectives and the tests will be designed to measure whether a student has or has not reached a predetermined standard of performance with regard to particular objectives.

The Progress Tests are intended for use by classroom and remedial teachers during a course of study, at the conclusion of meaningful units of the program either for the class or for individual students. The tests will, as far as is possible, indicate the specific difficulties being encountered by students. The Review Tests are intended to be used at the end of a course to summarize student achievement in a particular area of the curriculum. The results of such testing could be used as part of the reporting by schools to parents on the progress of students. A test manual will provide suggestions for teachers on possible teaching strategies and learning activities and will incorporate advice about the identification of errors for the purposes of remedial teaching. Two forms of each test will be produced to provide alternate forms for retesting. An in-service training program for teachers is being developed.

Work began at the ACER in November 1978 with an initial review of the literature on achievement and basic competence testing, the examination of published tests in a variety of fields, and the development of project planning details. The development of objectives, rationales, and the production of items began early in 1979. Mr S. Farish and Mr M. Wilson on secondment from the Education Department of Victoria joined ACER staff already working on the project in February 1979; Mr J. White formerly of the New Zealand Education Department began at the ACER in April 1979; officers of the ACT Schools Authority commenced part-time work on the project in April; and a group of six deployed teachers of the NSW Department of Education began full-time work on the project in Sydney in May. Mr S. F. Bourke became Scientific Director of the project in May 1979.

Sets of objectives have been prepared and test items are being developed initially in the fields of reading, mathematics, and inquiry skills. The area of social learning is being studied with a view to developing objectives. It is intended to extend the subject areas to include tests in the areas of writing, listening, speaking, and natural science.

A number of meetings have been held with representatives of participating state education departments and a working group meeting was held in Sydney in June 1979 of all those involved in the project to co-ordinate activities, to determine the course of future development of objectives and items, and to plan details of the informal and formal trial-testing programs.

The tests are being produced in batches by subject areas. It is intended that the first tests will be completed by the end of 1979 and will be published early in 1980.

Publications and Papers

Bourke, S. F. *The Development of School Achievement Tests*. Hawthorn, Victoria: ACER, 1979. (mimeo.)

Career Planning and Guidance

Janice J. Lokan, Meredith Shears (from April 1979)

(This project is included in the ACER Core Program.)

The past year has been one of development and preparation. In response to the current level of emphasis on career education and guidance programs in Australian schools, the project is now focusing on the provision of locally validated and normed instruments to aid teachers and counsellors in their work with students.

Two sets of materials which were originally produced in the United States have been adapted for Australian conditions. The first of these, which had already been adapted and used in several other countries, is the *Career Development Inventory (CDI)*, based on the theory of Donald Super. This instrument is intended primarily as a means of assessing secondary students' readiness to undertake tasks relating to their career preparation. The second set of materials, which had previously been used only in the United States and Canada, is the *Program for Assessing Youth Employment Skills (PAYES)*. These materials were designed at the Educational Testing Service for use with low-achieving secondary school students or dropouts.

Two pilot studies, one for each adaptation, were carried out during the year in schools in or near Melbourne. High schools, technical schools, and private schools in a variety of socio-economic areas participated in these studies. Data analyses for the study of the *CDI* have been completed and a revised version of the instrument prepared for norming on a national basis during the second half of 1979. The trial data for the *PAYES* materials were not collected until April/May, and have not yet been analysed.

Work with the *CDI* will conclude during the first half of 1980 with the publication of the Australian version of the instrument together with users and technical manuals. It is anticipated that work with the *PAYES* materials will continue into 1980-81.

Curriculum Materials Evaluation

Peter Jeffery

(This project is funded by ACER's income from sales.)

Slow progress has been made in the work of investigating how teachers obtain their information on curriculum materials but the data are now ready to be written up for publication. However, it has been possible during the year to undertake trials of various kits recently released or about to be released by various publishers with whom the ACER is connected. Thanks to the co-operation of many educators around Australia, nine Review Reports have been produced during the year.

- No. 22 *Boehm Resource Guide for Basic Concept Teaching.*
Marguerite Carstairs, Hawsburn Primary School, Victoria
- No. 23 *Perceptual Skills Curriculum.*
Monica B. Baldwin, Bulmershe College of Higher Education, Reading, Berks, England.
- No. 24 *Boehm Resource Guide for Basic Concept Teaching.*
June Rouse, Education Department, Special Education Branch, Tasmania.
- No. 25 *Goldman-Lynch Sounds and Symbols Development Kit.*
Theresa Hodgins, Victorian School for Deaf Children, Melbourne, Victoria.
- No. 26 *Towards Affective Development.*
Maureen Griffin, Collingwood Education Centre, Victoria.
- No. 27 *My Friends and Me.*
Barbara Skein, Jan Keldie, Margaret Valentine, Hackett Primary School, Australian Capital Territory.
- No. 28 *Systematic Training for Effective Parenting (STEP).*
Graeme Sutton, Education Department, Counselling, Guidance and Clinical Services, Lilydale, Victoria.
- No. 29 *The Bookfinder: A Guide to Children's Literature about the Needs and Problems of Youth Aged 2-15.*
Tim Hunter, Assistant Principal Librarian, Education Department, Victoria.
- No. 30 *Bruininks-Oseretsky Test of Motor Proficiency.*
Pauline A. Lee, Spring Valley Primary School, Springvale, Victoria.

Junior Secondary Mathematics Topic Tests

Gregory B. Cornish (until October 1978) and John F. Izard

(This project is included in the ACER Core Program. Mr Cornish was seconded from the Victorian Education Department.)

The tests prepared in this project have been published under the title of the *ACER Mathematics Profile Series*. The *Space Test* was released in 1978 and the *Measurement Test* was released in 1979. The *Number Test* has been prepared and the handbook for this test is being finalized for publication. These tests use the Rasch model in the measurement of student performance. Unfortunately work on this project was seriously delayed by Mr Cornish's appointment to the Victorian Institute of Secondary Education.

Tests, Publications and Papers

ACER Mathematics Profile Series Tests. Space Test and Handbook.
Hawthorn, Victoria: ACER, 1978.

ACER Mathematics Profile Series Tests. Measurement Test and Handbook. Hawthorn, Victoria: ACER, 1979.

Chemistry Unit Tests

Peter Martin

(This project is funded by ACER's income from sales. Mr Martin is seconded from the Victorian Education Department.)

The long-term aim of this project is to develop a pool of chemistry items for use at Year 12 throughout Australia. A collection of about 200 items written specifically for the Victorian Year 12 course will be available to schools at the commencement of the 1980 school year. This collection will replace the *Series M Chemistry Diagnostic Tests*, which do not adequately reflect the material prescribed by the new Year 12 chemistry syllabus in Victoria, which was introduced in 1979.

Physics Unit Tests

Graeme Wilmot

(This project was funded by ACER's income from sales. Mr Wilmot was seconded from the Victorian Education Department.)

This project produced a series of tests and aids to permit diagnostic evaluation in secondary school physics for Years 11 and 12. The tests

and aids are designed for use in schools throughout Australia. The *Physics Unit Tests* include 21 *Unit Tests* and 21 *Diagnostic Aids*. The 21 *Unit Tests* were completed in 1978 and are now available for purchase from the ACER. The 21 *Diagnostic Aids* have been written by a number of Victorian teachers and are now being edited for publication.

Tests, Publications and Papers

Physics Unit Tests. Hawthorn, Victoria: ACER, 1978.

Screening and Diagnostic Tests for Early Primary School

Helga A. H. Rowe, Patricia M. Larsen (until February 1979), and Gwendolyn Ellemor (from January 1979)

(This project is included in the ACER Core Program.)

The present objective of this project is the preparation of a number of screening and diagnostic tests, which are specifically designed for use by class teachers. The set of tests, which will be known collectively as the *ACER Early School Series*, includes measures of perceptual, language, number and early reading and writing skills, and a measure of more general ability. Each test in the series is completely self contained, thus allowing teachers to select and administer those tests which may be most relevant to the needs of a particular group of children at a given time.

Extensive trials of all tests in the series during 1978 resulted in revisions in a number of areas. Data on the modified versions of the tests were obtained from a comprehensive sample of 50 Victorian schools, which included Catholic and Independent schools, and are being analysed.

The *ACER Checklists for School Beginners*, previously produced for this project, have been translated into French and German. The opportunity arose, late in 1978, to arrange for the collection of data on both the *Teacher Checklists* and on the *Parent Checklists* in France, Belgium, and West Germany. Some of the data have been received. Apart from the possibility of publishing the checklists in the above languages, the data collected overseas are expected to provide the basis for a comparative study. This type of study may provide useful information for teachers of migrant children in Australia.

Tests, Publications and Papers

Larsen, P. M. The development of assessment material for children starting school: a research abstract. *Australian Journal of Early Childhood*, 1979, 4, 46.

Rowe, H. A. H. Checklists for School Beginners. *Association of Teachers of the Intellectually Handicapped, Bulletin*, 1979, 6, 39-40.

ACER Mathematics Tests (AM Series)

Robert W. Davey

(This project is funded by ACER's income from sales.)

This project was concluded during 1979 following the publication of a completed manual for the AM Series of tests. The manual provides norms and summary statistics for a total of 23 tests in all States except New South Wales, in which only Tests AM8 to AM12 and AM14 were normed. Time was taken to tabulate data from three separate norming programs into one consistent format. Extensive use of the in-house computer enabled normative data to be produced in a standardized format which could be handed direct to the printer.

Tests, Publications and Papers

ACER Mathematics Tests (AM Series) Manual. Hawthorn, Victoria: ACER, 1979.

THE DEVELOPMENT OF TESTS AND INSTRUMENTS FOR USE BY PSYCHOLOGISTS

Revision of Adult and Higher Level Group Ability Tests

Robert W. Davey, Diana M. Bradshaw, John F. Izard

(This project is funded by ACER's income from sales.)

Advanced Tests AL-AQ and Higher Tests ML-MQ group ability tests have been revised. In addition new parallel forms have been developed, together with a parallel form of Advanced Test B40. A program to collect summary statistics, validity data, and normative data for these new tests has been carried out. The processing and marking of all returned test materials have been undertaken. Separate computer files have been built for the data from secondary schools and from tertiary institutions. Preliminary analysis of all data is complete. All summary statistics have been tabulated. It has been found necessary to plan for the collection of additional data from university samples since some universities in the original sample were unable

to carry out testing and, in several other cases, the numbers tested fell well below the requirements. Draft manuals for the revised tests have been prepared. Technical data and norm tables will be added to complete them.

Work has begun on the revision of Intermediate Level Group Ability Tests. Usable items from Intermediate Tests A and D will be added to a pool of items now in preparation. The outcome of this project will be the publication of three tests which will be standardized along with Jenkins Intermediate Non-Verbal Test, the content of which will be unchanged.

Studies of Tests of General Ability

Helga A. H. Rowe

(This project is included in the ACER Core Program.)

During the past year, most of the work carried out in this project was related to the Study of Essential Processes Underlying Problem Solving. The major aims of this study are to identify important process variables underlying problem-solving performance, and to develop a methodology for the gathering of information concerning the strategies used by individuals in their attempts to solve problems.

Data were collected from first-year university students, second-year teachers college students, and from Year 11 and Year 12 high school students on a number of different tasks; 41 935 problem-solving responses were classified, coded, and analysed. A distinctive pattern of problem-solving strategies can be identified in the performance of individuals of different ability and competence.

Most of the statistical analyses have been completed and writing up of the study is in progress.

Studies concerned with the comparison of WISC-R and WISC have been completed.

Publications and Papers

Rowe, H. A. H. WISC-R and WISC: How similar are they? Paper presented at the 13th Annual Conference of the Australian Psychological Society, at the University of Newcastle, August 1978.

Rowe, H. A. H. WISC-R and ITPA as diagnostic tools: their application to classroom remediation and programming. Two papers presented at the North Sydney Region School Counsellors In-service Conference, March 1979; and published by the NSW Division of Guidance and Special Education.

TESTING SERVICES AND PROGRAMS

Australian Scholastic Aptitude Test (ASAT)

Graeme Withers, Lex Lees, George Morgan, Allyson Holbrook (from November 1978)

(This program is funded from income from users.)

The *ASAT Series H* has been prepared for administration to the Year 12 student populations in the Australian Capital Territory, Queensland, and Western Australia. A change has been made to the item structure prevailing for previous series: at the request of users, Series H contains: humanities—30 items; social sciences—20 items; sciences—30 items; mathematics—20 items. There has been an increase of 10 items in the sciences at the expense of mathematics.

No national seminar was held this year: instead, user representatives met in Melbourne (December) and Hobart (February) to discuss on-going matters. At the first of these meetings, the Annual Report on ASAT was tabled, together with a proposal for research into item chaining. This proposal was accepted and its specifications built into the March 1979 trial testing, conducted in Tasmania and South Australia.

Tests, Publications and Papers

Australian Scholastic Aptitude Test: Series H. Hawthorn, Victoria: ACER, 1979.

Australian Council for Educational Research. *Report on the 1978 Australian Scholastic Aptitude Test (ASAT Series G).* Hawthorn, Victoria: ACER, 1979. (mimeo.)

ASAT Special Testing Program

Noel McBean, Evelyn Watson

(This program is funded from income from users.)

Five two-hour versions of the Australian Scholastic Aptitude Test have been assembled and made available for the testing of mature-age applicants to tertiary institutions.

Twenty-eight institutions in six States made use of these forms of the ASAT in 1978-79. Over 2200 candidates were tested. ACER has reviewed and improved the procedures followed in the program for supplying tests and reporting scores.

Australian Law Schools Entrance Test

Graeme Withers

(This project is funded by the Law Schools of the Universities of Melbourne and New South Wales, Monash University, and the Australian National University.)

The project continued with a further exploration of the problems of entrance selection of candidates for law schools, and development of items of various types for inclusion in the test. Series A of ALSET was prepared for administration to special-entry candidates at the University of Melbourne, Monash University and the ANU; this took place in November and March, and approximately 300 persons took the test. The second series of the test, following a small trial testing of some additional items, is expected to be published and used for the special intakes of law students for the 1980 academic year.

Tests, Publications and Papers

Australian Law Schools Entrance Test: Series A. Hawthorn, Victoria: ACER, 1978.

Co-operative Scholarship Testing Program

Evelyn Watson, Noel McBean

(This program is funded from income from users.)

This program has been conducted since 1962 for a number of independent schools in all Australian States. It provides a battery of tests at two levels: Level 1 for entrance to secondary school; Level 2 for continuation beyond either Year 8 or Year 9 (depending on the State). The areas examined are Written Expression, Humanities, and Mathematics. At Level 2, a Science component is included with the Mathematics. The overall regulation of the program resides in a policy committee representing independent schools and the ACER. The administration of the program, including development of tests and test marking and score reporting, is carried out by the ACER. Test scores, standardized by level and by State, are returned to schools. The use made of these scores varies, but it provides an important element in assessing scholarship candidates.

In 1979, approximately 10 700 candidates registered for scholarships offered by 111 schools. The candidates sat either at participating schools or at one of the 42 country centres, or 42 overseas centres set up by the ACER. The tests used this year are the first of a new series which has been developed over the past three years.

Miscellaneous Testing Services

Noel McBean, Diana M. Bradshaw

(This program is funded from income from users and income from sales.)

Psychological Corporation Testing Program

ACER continued to act as a controlled centre for the Psychological Corporation of New York. Copies of the Miller Analogies Test are held on behalf of the Corporation and arrangements made for the supervision of candidates throughout Australia. Fourteen candidates were tested at the ACER and arrangements made for administration by interstate supervisors for a further 31 candidates. The tests are scored at the ACER and reports sent to the candidate, the Psychological Corporation, and the universities in the United States to which the candidate is applying for admission.

ETS Testing Program

On behalf of Educational Testing Service of Princeton, New Jersey, the ACER has provided accommodation and supervision for 21 examination sessions covering 218 candidates. Associated with this supervisory service is an advisory service covering wide-ranging enquiries about the various tests and procedures necessary to register for them.

Other Testing Programs

Servicing of the Mathematics Examination for the Victorian Nursing Council has continued. Tests of applicants for apprenticeships were marked and scores reported to the Victorian Railways together with statistical data. A report on Pharmacy Tests prepared for the Committee on Overseas Professional Qualifications was submitted after extensive analysis of test items. College Scholarship Tests were provided at Year 10 and Year 11 levels for some independent schools which make use of the Co-operative Scholarship Testing Program at Year 6 or Year 8 levels.

PROGRAM OF LIBRARY AND INFORMATION SERVICES

Australian Education Index

Margaret A. Findlay, Marie A. Pernat

(This project is included in the ACER Core Program.)

The absence of a comprehensive data base for Australian education alongside overseas computerized data bases has prompted users of the Australian Information Network (AUSINET) to request the ACER to make available the *Australian Education Index* files. ACER accepted the responsibility to provide this data base but the *Index* was being compiled manually and the requisite file was not available. Due to the necessity to maintain continuous publication of the *Index*, it was decided in 1978 that a small experimental file of *AEI* entries would be created using some 1978 entries and mounted into AUSINET. Consideration was to be given to the production of a hard copy *Index* using INDICAT through ACI Computer Services, Clayton, Victoria, and subsequently in 1979 the complete file would be made available.

The format of entry suggested by the National Library for AUSINET files and the style of the ERIC system were adopted. ERIC descriptors were assigned as this terminology system was known to AUSINET users and to Australian educators. Approximately 700 entries were included in the *AEI* data base at regular intervals during 1978, and the entry format and the indexing style were drawn up and modified during the year.

Commencing in 1979, this new format of indexing was adopted for all *AEI* indexing. Four hundred entries which would constitute the first issue of the *Australian Education Index* for 1979 were processed using the ACI system, EDE, through the terminals at ACI Computer Services. Trial runs using INDICAT were carried out during March and April on these entries and modifications to the data to adapt to the INDICAT program as well as to the system to meet ACER's requirements were necessary. The first two issues, Volume 22 no. 1 and no. 2 have been produced and distributed to subscribers. A subsequent issue will be produced in September followed by a cumulative 1979 issue in December.

Concurrently with the production of the hard copy *Index*, an Australian education data base consisting of the complete file of the *Australian Education Index* of 1979 onwards is maintained in AUSINET. Input is at the rate of 200 entries per month and it is anticipated that AUSINET users will use this file as a current retrieval system for Australian educational information.

Publications and Papers

- Australian Education Index* (M. A. Findlay and M. A. Pernat, Eds) Vol. 21 (2, 3, 4 and Annual Cumulation) 1978. Vol. 22 (1, 2) 1979. Hawthorn, Victoria: ACER.
- Findlay, M. A. Australian Education Index. *Australian Special Libraries News*, 1979, 12, 43-44.
- Findlay, M. A. Australian education data base. *AUSINET News*, 1979, 1, 13.

Australian Education Review

John P. Keeves

(This project is included in the ACER Core Program.)

Only two numbers of the Review have been published during the year. However it is pleasing to record that Numbers 11 and 12 in the series have been in such demand that reprinting has been necessary.

Publications and Papers

- Crittenden, B. S. *Bearings in Moral Education: A Critical Review of Recent Work*. (Australian Education Review No. 12). Hawthorn, Victoria: ACER, 1978.
- Sturman, A. *From School to Work: A Review of Major Research in Australia*. (Australian Education Review No. 13). Hawthorn, Victoria: ACER, 1979.

The History of the ACER

Emeritus Professor W. F. Connell, Christopher J. Cook

(This project is funded by ACER's income from sales.)

During the past 12 months, the task of sorting the correspondence held by the ACER but no longer in active use was completed. This involved rearranging, labelling, listing, and indexing. Now these records are relatively accessible to anyone seeking information from them.

The writing of the history is proceeding according to schedule. Many people, both overseas and in Australia, have spoken to Emeritus Professor Connell, about their association with the ACER. Various documentary sources of information have been consulted, including the Mitchell Library, the State Library of Victoria, and the archives of the Carnegie Corporation of New York.

General Information Services

Phillip A. McKenzie, Robin G. Rowlands (Honorary Staff Member)

(This project is included in the ACER Core Program.)

During the past 12 months three Abstracts have been prepared under the Unesco/IBE Abstract agreement:

Evatt, E. (Chairman). *Royal Commission on Human Relationships: Final Report*. (5 vols). Canberra: AGPS, 1978.

Galbally, F. E. (Chairman). *Review of Post-Arrival Programs and Services to Migrants: Migrant Services and Programs*. Canberra: AGPS, 1978.

Rosier, M. J. *Early School Leavers in Australia*. Stockholm: Almqvist and Wiksell, 1978.

Unfortunately IBE Geneva is no longer able to continue its abstracting service and this work has now been terminated.

Work has been undertaken in the development of a conceptual framework for examining the interrelationships between the labour market and an education system based upon recurrent principles. Following a review of the recurrent education literature, an attempt has been made to link the broad principles of recurrent education to the economics of human resource development, illustrating where possible from relevant Australian data. A particular area of interest is an examination of the implications of alternative financing mechanisms for the efficiency and equity objectives of a recurrent education system.

At the request of the Australian Education Council Secretariat in Melbourne, work has been undertaken on the compilation of data concerned with early childhood education and welfare programs in each of the Australian States and Territories. It is surprising that, in spite of the heavy expenditure in this area over recent years, information on the use of early childhood services in Australia is obscure, erratic and irreconcilable.

Philanthropic Trusts in Australia

Robin G. Rowlands (Honorary Staff Member)

(This project is funded from special grants.)

The second edition of *Directory of Philanthropic Trusts in Australia* was published by the ACER in 1974. In the five years that have elapsed since then, it has become firmly established as a publication of great value to all those seeking information on Australian philanthropic trusts and foundations. An important development during this time has been the formation of the Association of Australian

Philanthropic Trusts and the preparation of the third edition is being carried out in consultation with this organization. This has been particularly helpful in ensuring that the entries inform potential applicants about the legal requirements of the States and the Commonwealth. Entries are also scrutinized to ensure that they clearly convey the wishes of the donors that the funds be used to promote the aspects of human welfare which they have specified.

Although it is too soon to announce the total disbursement available through the trusts listed in the new edition, there is no doubt that it represents a sector of the Australian economy which is different in its purposes and mode of operation from both the public and the private sectors. There is a great need for more widespread knowledge and understanding of this aspect and a much closer study of its impact on the Australian economy as a whole.

It is anticipated that the revised edition, *Philanthropic Trusts in Australia*, will be published in late 1979.

Library

Margaret A. Findlay (Librarian), Christopher J. Cook, Elspeth Miller, Marie Pernat, Lula Psiliakos

(The library is funded in part from the Core Grant, but largely from ACER's income from sales.)

A concerted effort has been made during the period under review to maintain an efficient library and information service for the research staff of ACER. Library usage by staff continues to be kept at a high level, and during the year 5300 items were borrowed from the collection which indicates that the staff realize the worth of the library as a valuable reference source. Recent changes and growth in the ACER research program have prompted a review of the coverage of the library collection and its relevance to the information needs of present research staff. At June 1979, the overall collection had increased to 15 600 with an average monthly growth of 130 titles.

Interlibrary co-operation continues to reflect the value of the collection in the field of education in Australia. During the 12 months, requests for interlibrary loans from other libraries totalled 1800. From August 1978, the library participated in the newly established LAA voucher system for photocopying.

An additional activity this year was the compilation of the third edition of *Serials in Education in Australian Libraries* which provides a source guide to the serials in the Australian education and ERIC data bases and lists the holdings of these serials in 80 Australian libraries. The listing has been compiled using the inhouse computer and will be produced on computer output microfiche. After publication, the data will be available for inclusion in AUSINET.

PROGRAM OF SURVEY AND PSYCHOMETRIC SERVICES

Survey Research Services

Malcolm J. Rosier, Kenneth N. Ross

(This project is included in the ACER Core Program.)

The role of the Survey and Analysis Services Unit is to provide advice and assistance to ACER staff and to research workers in other institutions. During the year the ACER Sampling Frame was restructured, and the information on enrolments in primary and secondary schools was revised using data from the August 1978 School Census. Seminars for ACER staff have been conducted on sampling theory and on the use and structure of the Sampling Frame. Australia-wide samples have been drawn for several external studies, including the Science Study sponsored by the Schools Commission to examine future needs for science facilities in Australian schools, and the Australian College of Education survey of Teachers in Australia.

Publications and Papers

Ross, K. N. Sample design for educational survey research. *Evaluation in Education: International Progress*, 1978, 2 (2), 105-195.

Studies in Sample Design

Kenneth N. Ross, Stephen Farish, Mark Wilson

(This project is included in the ACER Core Program. Mr Farish and Mr Wilson are seconded from the Victorian Education Department.)

Following the interest of the educational research community in the need for techniques which facilitate the assessment of the stability of research results derived from complex multi-stage sample designs, several studies have been planned to continue and extend investigations of subsample replication techniques.

These studies focus on the problems of error estimation for statistics which are derived from the regular test development and norming work carried out by the ACER. In particular, the results of the studies will provide a greater understanding of the types of sample designs which lead to stable estimates of item statistics, reliability coefficients (both traditional and criterion-referenced), and correlation coefficients, while at the same time featuring the highest possible degree of economy and simplicity in execution.

The data files for this empirical investigation have been prepared, and work is currently under way to develop a co-ordinated set of computer programs which will permit the execution of subsample replication techniques developed by Deming and Tukey, and also to study the performance of the Taylor-series approximation technique which has recently been developed by the United States Bureau of the Census.

Publications and Papers

Ross, K. N. An empirical investigation of sampling errors in educational survey research. *Journal of Educational Statistics*, 1979, 4 (1), 24-40.

Australian Educational Data Archives

Malcolm J. Rosier, Robert Priest (from 9 October 1978)

(This project is included in the ACER Core Program.)

This project has developed from ACER's previous experience with the IEA data banks. ERDC has provided funds for a small Advisory Committee to meet to examine the feasibility of establishing an Australian educational data archives system. The Advisory Committee consists of Professor Jonathan Anderson (Flinders University) as Chairman, Dr Malcolm Rosier, and Mr Ken Ross. In August 1978, at an early stage of its work, the committee was fortunate in being able to discuss aspects of data archives with Dr Jack Schwillie (Michigan State University) who had played a major role in establishing the data bank for the IEA Six-subject Study. ACER has joined the Australian Consortium for Social and Political Research Incorporated (ACSPRI) to facilitate the sharing of data with other research workers in Australia, and also overseas through the link between ACSPRI and the Inter-university Consortium for Political and Social Research (ICPSR).

The report of the feasibility study is due for publication before the end of 1979. As well as suggesting procedures for cataloguing data and managing a system of data archives, the report will contain a case study of the stages undertaken in building a computer file. The case study will be based on the file-building procedures adopted for the Second IEA Mathematics Study in Australia.

Publications and Papers

Anderson, J. and Steinle, J. *Student Attitudes and Motivations towards School: Profile of Secondary School Students in South Australia*

and Queensland. (IEA (Australia) Report 1978: 1). Hawthorn, Victoria: ACER, 1978.

Rosier, M. J. Factors influencing the decision of 16-year-old Australians to remain at school or to leave. *VIER Bulletin*, 1978, 41, 25-37.

Rosier, M. J. *Early School Leaving in Australia, with Particular Reference to Western Australia*. (Issues in Educational Research V). Churchlands, Western Australia: WAIER, 1978.

ASAT Validation Studies

George Morgan, Lex Lees

(This project is included in the ACER Core Program.)

Papers presented at the third annual seminar on the Australian Scholastic Aptitude Test, June 1978, have been collated, and published as a collection of research papers relating to the ASAT. An annotated bibliography has been compiled, which brings together research relating to the ASAT and TEEP carried out over the past nine years at state and national level. An annotated summary has been provided of approximately 40 papers and publications.

Currently this project is concerned with problems of equating different forms of the ASAT. A study is in progress which is attempting to equate different forms using the anchor item method within a Rasch item analysis framework. The feasibility of ASAT equating is being examined through five trial tests of the *ASAT Series H*, which were field tested in February/March 1979, and the 1978 form of the test, *ASAT Series G*. Preliminary results from computer analyses indicate that most of the items in each test fit the Rasch model, providing evidence that the tests can be characterized by a broad unidimensional latent trait of scholastic aptitude. Indications are that a sufficient number of items in the anchor sets can be used to provide a meaningful equating of the tests. However, the stability of equatings across different pairs of tests has yet to be evaluated.

Publications and Papers

Australian Council for Educational Research. *Research Papers Relating to the Australian Scholastic Aptitude Test*. (Papers presented at the third annual seminar on the Australian Scholastic Aptitude Test, June 1978). Hawthorn, Victoria: ACER, 1978.

Lees, L. *Research Relating to the Australian Scholastic Aptitude Test: A Selected Annotated Bibliography*. Hawthorn, Victoria: ACER, 1979.

Studies of Criterion-Referenced Measurement

George Morgan

(This project is included in the ACER Core Program.)

During the past year, a major activity of the project was to keep the ACER abreast of important new developments in the field of criterion-referenced measurement and testing. This enabled a number of projects within the ACER to benefit from up-to-date information, particularly in the structuring of more efficient measurement designs and in the interpretation of criterion-referenced test data.

Other activities in this project were directed at the preparation of two papers. The first paper examined the kinds of problems mathematics (and other) teachers might face should they wish to introduce criterion-referenced testing into the classroom. In particular an examination was made of problems of technique associated with the development and administration of criterion-referenced tests and the interpretation of criterion-referenced test scores. At present, very few teachers have sufficient knowledge about criterion-referenced assessment and its procedures to enable them to implement satisfactorily objective-based instructional programs based on these procedures, or to utilize properly criterion-referenced testing materials offered by test development agencies.

The second paper in this project was an outcome of a study which developed a criterion-referenced measurement model with corrections for guessing and carelessness. By varying the values of the 'guessing' and 'carelessness' parameters within the model, the examiner can explore the effect of examinee guessing and carelessness on the cut-off (passing) score of the criterion-referenced test. The model interprets criterion-referenced test performance of examinees within a Bayesian statistical decision-theoretic framework. The results of a computer simulation of the model indicate that guessing and carelessness by examinees may markedly influence the actual value of the cut-off score for the test, and hence the accuracy of decisions about mastery. The model was applied in the calculation of cut-off scores for tests of literacy and numeracy from the Australian Studies in School Performance project recently completed by the ACER.

Publications and Papers

Morgan, G. Is there a place for criterion-referenced testing in the mathematics class? Paper delivered at the Mathematics Education Research Group in Australia Conference, Brisbane, 1979.

Morgan, G. *A Criterion-referenced Measurement Model with Corrections for Guessing and Carelessness*. (Occasional Paper No. 13). Hawthorn, Victoria: ACER, 1979.

Evaluation of the MATHSHOP Materials

Sidney F. Bourke

(This project is included in the ACER Core Program, with a small supplementary grant from the Curriculum Development Centre.)

MATHSHOP, co-ordinated by the Curriculum Development Centre (CDC), is an Australia-wide project concerned with the development of materials for in-service and pre-service teacher education in mathematics. The ACER has been responsible for the evaluation of the MATHSHOP packages and project.

Assistance has been provided to a number of state teams working on the development of MATHSHOP materials in evaluating the materials during trial testing. In particular, work has been done in providing evaluation questionnaires suitable for general use, and in coding and interpreting responses to questionnaires for several packages being developed in Victoria and Western Australia. In general, however, progress with the project has not been as rapid as had been hoped and no packages have been published for more formal evaluation. This project has now been terminated.

Statistical Analysis and Psychometric Services

Glen A. Smith

(This project is included in the ACER Core Program and is also supported by income from users.)

ACER's first inhouse computer system was delivered and installed over the months July to November 1978. After some initial problems with supplied software, a telephone link to ICI's IBM/370 Computer at 2400 bits per second was established, and has been thoroughly used. Often 20 jobs go to and from ICI in a day. Existing FORTRAN programs used on other machines for statistical analysis have been adapted or rewritten for use inhouse, and usage of these has provided cheap data analysis. In early April, a replacement computer with about 15 times as much, and larger, disc storage was delivered. This greatly increased ACER's inhouse computing power, as larger data sets could be stored and manipulated inhouse, and large files sent to or received from ICI for complementary analysis. A dial-up link to the Melbourne University Cyber computer has been established after some delays.

PROGRAM OF ADVISORY SERVICES

Educational Advisory Services

Peter Jeffery, Noel McBean (to February 1979), Patricia McLean (from February 1979)

(The cost of Advisory Services is met entirely from ACER's income from sales.)

The main thrust of this year's work has been on preparation of publicity materials and implementation of new strategies to disseminate information on the wide range of ACER publications to the many people throughout Australia who are potential users of the information. Although persistent efforts have been made to circulate information through curriculum consultants, teachers centres and special educators generally, there is still a considerable volume of direct correspondence from teachers in all types and levels of schools in all States. Many of these requests are of the kind that require synopses of research findings and that cannot be satisfied by referring the enquirer to a single title or even to a list of titles. Accordingly it is satisfying to be able to report that negotiations have been completed with the New Zealand Council for Educational Research to jointly publish a research information package called *set*. This will make another step in the direction of systematically providing information in anticipation of needs rather than merely reacting to demands as they arise.

A system has been established to prepare and distribute press releases to various audiences for each new ACER publication. Linked with this work is the method which encourages and invites reviews and notices of ACER publications. These efforts have resulted in increased visibility for the ACER generally and the reporting of its publications. A series of *Project News* statements summarizes work in hand, for each of the projects and services carried out by the ACER. These have been distributed widely by mail and at various conferences in addition to being included in the ACER information folders given to visitors.

Publication of the *ACER Newsletter* has continued, but at the reduced rate of three numbers per annum to fit better with the school year. A feature of this work in 1978/79 has been increased circulation aided by regional directors of education and some large colleges of advanced education which take bulk quantities of the newsletter for forwarding in their local areas. To capitalize on the *Newsletter* distribution, leaflets of information about ACER books have been included with each issue.

Fourteen educational displays have been prepared for conferences

in various parts of Australia in addition to the encouragement of semi-permanent displays at teachers centres. Two up-dating mailings for owners of *ACER Mini-Library of Tests* and *ACER Annotated Catalogue of Educational Tests and Materials* have been completed. The *ACER Test Selection Chart* which was forwarded to all schools and educational institutions with the *ACER Educational Catalogue* in February 1979 received favourable reports.

Advisory officers have lectured at various courses, workshops, conferences, and meetings in Victoria and other States. Staff continue to receive many more invitations to do this work than they can accept. At the time of writing, a large number of invitations to speak to groups of parents about *Systematic Training for Effective Parenting* (STEP) are being received. The regular commitment to lecture at the Continuous Remedial Education Course run at Minimbah by the Victorian Education Department has continued.

Publications and Papers

ACER Newsletter Numbers 33, 34, and 35.

Psychological Advisory Services

Diana M. Bradshaw, Josephine C. Jenkinson, Barbara Johnson (until November 1978)

(The cost of Advisory Services is met entirely from ACER's income from sales.)

Requests for test advice and information have not diminished and again this service is sought more by Victorian test users than by those in other States, which reflects easier accessibility.

The number of qualifications cards processed was approximately the same as the previous year. Test loans increased by 10 per cent and there was a considerable increase in the number of displays of test materials provided for conferences and seminars with a consequent increase in pressures on test library staff who assemble and check materials for despatch.

Mrs Jenkinson attended the annual conference of the Australian Psychological Society in Newcastle and the inaugural conference of the Victorian Association for Gifted and Talented Children in Melbourne, together with seminars on the selection of apprentices, supervision of psychologists, and personality assessment.

A revision was made of the annotated test bibliography on self-concept tests and a similar bibliography on creativity tests was prepared.

The *ACER Personnel Catalogue* was revised and two issues of the *ACER Bulletin for Psychologists* were published.

At the request of the Standing Committee on Test Use of the Australian Psychological Society, information was extracted and collated on trends in test use. Under the supervision of Mrs Bradshaw, an analysis was made of occupational groups of test users, by a research assistant temporarily employed for the purpose by the Standing Committee.

Publications and Papers

Bulletin for Psychologists No. 24 and 25.

Maintenance of Educational and Psychological Tests

Diana M. Bradshaw, Allyson Holbrook (from November 1978), Josephine C. Jenkinson

(This project is funded by ACER's income from sales.)

Work on this project was suspended during the latter half of 1978 because of other commitments, but resumed early in 1979. A revised manual for the *ACER Mechanical Reasoning Test* was completed. A leaflet providing norms of apprenticeship applicants on the *Standard Progressive Matrices Test* was prepared for insertion in the test manual. A draft revision of the manual for the *ACER Short Clerical Test* is almost completed, and sufficient data are in hand for revision of the manual for the *Minnesota Paper Form Board Test* and preparation of an Australian supplement for the *APU Arithmetic Test* in 1980.

Excellent co-operation was again achieved from test users who contributed results for the purpose of updating norms. However, a major problem has been the collection of suitable information for establishing test validity.

Tests of English Language Skills

Trial forms have been prepared of tests of a number of language skills using items adapted from tests of American origin. Culturally inappropriate items have been changed, and spelling and usage altered where these were inappropriate. The tests are at late secondary level and provide two forms, each of two parts, including sub-tests of reading comprehension, spelling, punctuation and capitalization, usage and effectiveness of expression. The tests will be tried out in one college in the Australian Capital Territory with the ultimate aim of providing tests that will fill an increasing need in this area.

Publications and Papers

Manual for ACER Mechanical Reasoning Test. Rev. ed. Hawthorn, Victoria: ACER, 1979.

PUBLISHING

AUSTRALIAN JOURNAL OF EDUCATION

Associate Professor R. L. Debus of the University of Sydney and his Assistant Editors continue to edit the Australian Journal of Education. The subscription rate for the journal was held constant in 1979, but substantial increases will be necessary in 1980.

The number of subscribers for 1978-79 stands at 1960 of whom 620 are members of the State Institutes of Educational Research.

AUSTRALIAN EDUCATION REVIEW

The demand for the *Australian Education Review* has risen in the past 12 months, although fewer numbers have been issued. As a consequence it has been necessary to reprint both Numbers 11 and 12 following an initial printing of 1500 and 1000 copies respectively.

PUBLISHING DIVISION ACTIVITIES

Don Maguire, Marcel Leman, Jennifer Lord (until December 1978), Bronwyn Hay (from February 1979), Russell Hanna (from April 1979)

The increase in the research project activities of the Council has resulted in a corresponding increase in the Division's involvement with project publications this year. The items are listed in the undermentioned production details.

The year was also significant as two important kits of materials were published, the second of which had been on the production list for some time. The kits were the *Childrens Depression Scale* by Moshe Lang and Miriam Tisher, a notable 'first' in this field and *Queensland University Aphasia and Language Test* by John H. Tyrer and Mervyn J. Eadie.

Two more tests in the *ACER Mathematics Profile Series* were released, and the *ACER Mathematics Tests (AM Series) Manual* was published.

Books, Reports, Papers, and Periodicals Published

(a) Books, reports and papers

Personal Identity in a Multi-cultural Australia by Barbara Falk

(Buntine Oration). Published by ACER for the Australian College of Education.

Reading Appraisal Guide by Barbara Johnson.

The Renewal of Australian Schools: A Changing Perspective in Educational Planning edited by J. V. D'Cruz and P. J. Sheehan. Second and enlarged edition.

Research Papers Relating to the Australian Scholastic Aptitude Test: Papers presented at the 1978 Annual Conference.

Research Relating to the Australian Scholastic Aptitude Test: A Selected Annotated Bibliography by Lex Lees.

Parish Primary School Survey, 1976 by J. P. Darmody (ACER Research Monograph No. 1).

The Australian Science Facilities Program: A Study of Its Influence on Australian Schools by John G. Ainley (ACER Research Monograph No. 2).

Aboriginal Children in Victoria by Marion M. de Lemos (ACER Research Monograph No. 3).

Educational Evaluation: Key Characteristics by Jillian Maling-Keepes (ACER Research Series No. 102).

The Way of Tradition: Life in an Orthodox Jewish School by B. M. Bullivant (ACER Research Series No. 103).

Student Attitudes and Motivation towards School by Jonathan Anderson and John Steinle (IEA (Australia) Report Series 1978: 1).

A Criterion-referenced Measurement Model with Corrections for Guessing and Carelessness by George Morgan (Occasional paper No. 13).

Children's Television Behaviour by Kevin Sharman (Occasional paper No. 14).

(b) Periodicals

ACER Newsletter edited by Peter Jeffery.

No. 33 July 1978, No. 34 November 1978, and No. 35 April 1979.

Australian Education Index compiled by Margaret A. Findlay and Marie A. Pernat.

Vol. 21 No. 2 July 1978, Vol. 21 No. 3 September 1978, Vol. 21 No. 4 November 1978, Vol. 21 Cumulation 1978, Vol. 22 No. 1 March 1979, and Vol. 22 No. 2 June 1979.

Volume 22 No. 1 is the first number for which the entries are included in the Australian education data base in the Australian Information Network (AUSINET) which is available for on-line searching in major libraries.

Australian Education Review

No. 12 *Bearings in Moral Education: A Critical Review of Recent Work* by Brian Crittenden.

No. 13 *From School to Work: A Review of Major Research in Australia* by Andrew Sturman.

Bulletin for Psychologists edited by Diana Bradshaw.

No. 24 July 1978 and No. 25 February 1979.

(c) Advisory services publications

ACER Personnel Catalogue. Tests and books for use in personnel selection.

ACER Annotated Catalogue of Educational Tests and Materials.
ACER Educational Catalogue.

ACER Psychological Catalogue—Price List and Supplement.

ACER Prospectus Folder.

(d) Advertising materials

AJE advertising leaflet; *AER advertising leaflet*; *Long circular letter to schools*; *ACER Test Selection Chart*; *STEP circular letter and order form*; *QUALT brochure*.

Tests Published

(a) Testing services

Co-operative Scholarship Testing Program Candidates Registration Form, Candidates Information Bulletin, List of Centres. Tests: Written Expression, Levels 1 and 2; Humanities, Levels 1 and 2; Mathematics, Level 1; Mathematics and Science, Level 2. Answer Booklet, Levels 1 and 2.

The tests published this year were compiled from new material. *College Scholarship Tests* Year 10 Humanities Test and Mathematics Test.

Australian Law Schools Entrance Test Series A Test Booklet, Answer Sheet.

Australian Scholastic Aptitude Test Series G Book I, Book II and WA version.

ASAT Special Testing Version Supplement to Students Information Bulletin Social Science (Green and yellow tests).

(b) Diagnostic tests, achievement tests, and teaching aids

ACER Mathematics Profile Series Space Test, Test Booklet, Teachers Handbook, Answer Sheet, Score Key/Mastery Profile Cursor; *Measurement Test* Test Booklet, Teachers Handbook, Answer Sheet, Score Key/Mastery Profile Cursor by Greg Cornish.

ACER Physics Unit Tests Group 2: Test 5 Dynamics, Test 8 Oscillations, Test 9 Gravity and Kepler's laws, Test 10 Waves, Test 12 Light—interference, diffraction and spectra, Test 14 Kinetic theory of gases, Test 17 Current electricity, Test 19 In-

duced EMF, Test 20 Atomic Physics, Test 21 Quantum Physics, List of Answers Booklet.

This completes the publication of the 21 tests in the ACER Physics Unit Test Series.

ACER Mathematics Test (AM Series) Manual This manual replaces the Interim Manual. In addition to Directions for Administration and Technical Information, it includes Tables of Raw Score/Stanine Conversions and Summary Statistics for six States. *Improve your Arithmetic* Revised edition.

Project Publications

Second IEA Mathematics Study

Student Booklet No. 1; Student Booklet No. 3, Answer Booklet No. 1, Answer Booklet No. 3, Teacher Questionnaire No. 1, Teacher Questionnaire No. 3, School Questionnaire, Manual for School Co-ordinators.

Career Planning and Guidance Program

Career Development Inventory Australian Secondary School Form S III — A Parts I II III, B Parts IV V VI; Word Knowledge Test-10; Occupation Group Preference Form; Australian Secondary School Form SS IV — A Parts I II, B Answer Sheet; Word Knowledge Test-14; Vocational Decision-Making Study—General Information Questionnaire.

PAYES Tests IC Attitude Survey; and 1A 1B D1 D2 Survey.

Survey of School Leavers

School and Work—Questionnaire; and School Life—Questionnaire.

Education Programs for Unemployed Youth

Surveys; and Instructions for Administration.

Kits Published

Children's Depression Scale by Moshe Lang and Miriam Tisher. Manual, set of five boxes, three sets of 66 plastic laminated cards, Record Form. The kit was published in time for launching at the conference of the International Association for Child Psychiatry and Allied Professions in Melbourne.

Queensland University Aphasia and Language Test by John H. Tyrer and Mervyn J. Eadie. Handbook, Directions for Administration and Scoring (Forms I, II, III), 3 Stimulus Books (Form I), 3 Stimulus Books (Form II), 3 Stimulus Books (Form III), 25 Record Sheet/Profile Chart Booklets, carrying case and small

wooden box (made at Royal Talbot Sheltered Workshop, Kew, Victoria), set of sticks (15).

Reprints

There were 264 separate reprints during the year, including a revised edition of the *ACER Mathematics Profile Test Series Operations Test Handbook, Construction and Analysis of Classroom Tests* by J. F. Izard, *Educating for Literacy and Numeracy in Australian Schools* by J. P. Keeves, J. K. Matthews and S. F. Bourke, *Some Attitude Scales for Educational Research Purposes* by J. P. Keeves, *Bearings in Moral Education* by B. S. Crittenden.

DISTRIBUTION SERVICES

Eric McIlroy, Alan W. Wilkins

Trading activities throughout the year continued at a similar level to 1977-78 with a total of 23 883 orders received and processed at an average of 460 per week. The publication of the *Australian Item Bank* materials in 1977-78 produced 2000 separate orders and a significant level of income. There was some continuation of orders and income from the sale of *Australian Item Bank* materials during 1978-79 but as expected these were at a considerably lower rate. While the reduction in orders was offset by orders for other items, the gross income for 1978-79 of \$1 383 000 was below the previous year.

In broad terms, the majority of income continued to be derived from the sale of tests and associated components and the aggregate of \$974 000 from this area represents 70 per cent of all sales. Income from the sale of kits of educational materials amounted to \$245 000 and contributed a further 18 per cent. Book sales and income from non-stock items were seven per cent and five per cent respectively of the total sales.

Sales were widely distributed throughout Australia with no significant variation from the previous pattern over the various States. Reference was made in the 1977-78 report that for the first time sales direct to schools exceeded the aggregate of sales to the State Education Departments. This trend has continued with an increase recorded in the combined value of materials sold to government primary and secondary schools and non-government schools, while during the same period slightly lower aggregate income from education department orders. Similarly there was a reduction in sales to universities and teachers colleges in 1978-79. It is considered that this result reflects

the restriction of government funding of educational institutions and this has considerable implications for all aspects of future trading activities.

A revision of prices of ACER published items was implemented from January 1979 with an average increase of 10 per cent which was similar to the increase on all operating and production costs over the previous 12 months. Because of changes in the exchange rate of Australian currency, it was possible to implement some reductions in the price of goods imported from the United States but the cost of items imported from the United Kingdom rose by 10 per cent, necessitating increased selling prices. Further increases in prices for items imported from the United Kingdom will be necessary, in the immediate future, because of currency changes. The capital investment in stock was effectively held constant and, despite the small margin over lead time and the wide range of source of supply, a high degree of ex-stock availability and service to clients was maintained.

During the year Distribution Services Division assumed responsibility for the subscription journals, *Australian Journal of Education* and *Australian Education Index* and continued to provide service functions of receipt, storage, and distribution for other sections of ACER. Included in these activities was the distribution of complimentary copies of all new ACER publications to a total value of \$11 500. These copies are distributed to disseminate the findings of research studies.

BUILDINGS AND ACCOMMODATION

At the Council Meeting on 15 September 1978, a decision was made to call for tenders for the erection of an extension to the ACER building to provide additional office accommodation for 20 members of the research staff. On 3 October 1978, a contract was signed with Van Driel (Australia) Pty Ltd for the construction of a new wing with a scheduled date for completion of 31 March 1979. The architects for the extensions were the firm of Oakley and Parkes and Partners who had been responsible for the design of the building in 1963 and for the enclosure of the ground floor of the building in 1971. The Hawthorn City Council quickly approved the work so that builders were brought on to the site on 10 October.

While in the early weeks and at certain stages during the building the research staff were interrupted in their work by the noise and the disturbances of building, it was fortunately possible to rent accommodation in an adjacent building in Alfred Street and to relocate staff who were disrupted by the activities of the builders. In addition, the building was taking place at a time when ACER was recruiting many

new members of staff and the rented accommodation was used to house them. By mid-December these offices were comfortably filled, while the work on the new building was proceeding apace.

During the period of building, it was very fortunate that an adjacent block of land in Frederick Street was not being used by the Swinburne College of Technology. After the land had been levelled and surfaced, ACER staff were able to use the space for car parking from 1 October until the completion of the building. We are grateful to the Director of the College, Dr R. Longworth, for allowing us to make use of this land not only during the period of building, but right through the remainder of the year. When the College wishes to use the land for their own purposes for parking or building, we will be appreciative of the use we have made of this area, but regretful that many staff will have to travel to work by other forms of transport.

The builders worked hard and well. The building was completed for occupancy only half a day over the scheduled time and we were able to move in on 2 April 1979. It is with gratitude that we acknowledge the efforts of the builders and the architects for their part in ensuring that the work was completed on schedule.

The new offices that have been built are comfortable and attractive, and staff who were occupying the older offices are more than a little envious of the accommodation offered to many who had only recently joined the staff.

The contract for the new building was let for \$193 688, the final price for the building was \$199 046, and the architect's and consultant's fees amounted to \$19 999.

There have been many other subsidiary tasks that have had to be undertaken arising from the work of construction, such as the development of a garden area and the planting of trees along the eastern face of the building. This together with the daily round of maintenance work has meant a very busy year for Mr Alan Wilkins, who has undertaken a supervisory and co-ordinating role in much of the work, and for Mr Peter Gale who has carried out a wide range of maintenance jobs with competence, efficiency, and willingness.

FINANCE

In the 1978-79 financial year, the Grant received from the Commonwealth Government was \$275 000 which was matched by the six State Governments to the level of \$275 000, and the total provision for the Core Program was \$550 000. These sums represented an adherence to a policy of an increment to the grant to cover cost-of-living increases to both the salary and non-salary components of the grant.

The roles played by the members of a Sub-Committee appointed by the Australian Education Council, to consider the level of grant paid to the ACER, and by the Education Research and Development Committee, in particular by its Chairman, Mr S. S. Dunn, in proffering advice to the Commonwealth and State Ministers of Education on the level of funding for the ACER are greatly appreciated.

During the past 12 months the Council has disposed of all its share holdings. The proceeds from the sale of the share holdings have enabled the Council to meet the incidental expenses associated with building, such as the establishment of the garden area at the front of the building, as well as to place an order for word processing equipment which will be installed during August 1979.

It must be noted that the ACER, after spending from its accumulated funds on the erection of a new building, has little in its reserves to guarantee liquidity at all times of the year. In the event of a down turn in sales, or a delay in the arrival of a major component of the grants we receive, it will become necessary to watch the balance in the bank to ensure that salary cheques are always covered.

STAFF MATTERS

The 1978-79 year has been a busy one in the recruitment of new staff. While it has been easier than in former years to select qualified staff to undertake research studies, there has been little evidence of an over-supply of research workers who have the skills and experience to carry out work of the kind that the ACER is engaged in. The staff we have recruited have been of high standard, but frequently such staff have been found not by the customary procedures of advertising and choosing from the large numbers applying, but by actively searching for staff with interests and aptitudes for educational research. In the selection and recruitment of staff the two newly appointed Assistant Directors, Dr T. H. Williams in the area of the Social Foundations of Education and Mr J. F. Izard in the area of Measurement and Evaluation, have played a major role.

The appointment of new staff has been associated with the undertaking of new projects, and each new study has its own problems of conceptualization, research design, and development of a program of work. In this work, I have been greatly assisted not only by Dr Williams and Mr Izard, but also by the Chief Research Officers on the staff, Dr J. G. Ainley, Mr S. F. Bourke and Dr M. J. Rosier. We have in the past 12 months adopted a procedure of naming a Project Officer or Project Director for each project and, in addition, naming a Scientific Director for each project to assume responsibility for the

quality of the research being carried out. In general, the Scientific Director is the Assistant Director of the Division in which the study is located, but this is not always so, and Mr S. F. Bourke has taken such responsibility for the scientific direction of three studies during the past 12 months. In addition, the ACER is grateful for the assistance it has received from Professor D. Spearritt of the University of Sydney for direction of the Speaking and Listening Study, Professor G. Stanley of the University of Melbourne for direction of the study of Perceptual Motor Problems, and Professor J. Anderson for direction of the establishment of the Australian educational data archives.

The past 12 months have been extremely busy ones during which opportunities have arisen for me to visit New Zealand and to meet with the Chairman of Council, Professor C. Hill, and the Director, Mr J. Watson, of the New Zealand Council for Educational Research. In addition during the visit, discussions were held with the Director General of Education for New Zealand, Mr W. Renwick, and the Assistant Director General, Mr P. Boag, on the planning of the Staffing and Resources Study, as well as to visit the IEA International Centre for the Second IEA Mathematics Study conducted by Mr R. Phillipps of the New Zealand Department of Education.

Shortly after the Annual Meeting in 1978, I left for overseas to attend an IEA Standing Committee Meeting in Budapest, and to speak at a Unesco Seminar at Fonyod, Balaton, Hungary. While overseas I visited the International Bureau of Education in Geneva, the National Foundation for Educational Research at Slough in England, where I had a very profitable discussion with Mr Yates, the Director, and Dr Clare Burstall, the Deputy Director. In addition, I was able to visit the Educational Testing Service at Princeton and to meet Dr W. W. Turnbull, the President, and to spend three days at the World Bank in Washington on discussions concerned with the evaluation of literacy and numeracy programs in developing countries. Another centre that I greatly enjoyed visiting was the office of the American Guidance Service at Minneapolis, and to talk with Mr J. Yackel, the President. In addition I visited briefly the National Institute of Education in Washington.

These travels together with the outside commitments involved in membership of the Australian National Commission for Unesco, the ACT Schools Accrediting Agency, the Faculty of Education and the Advisory Board of the Centre for Research in Higher Education of the University of Melbourne, the Council of the Institute of Early Childhood Development and the Senate of the State College of Victoria, the Executive Committee of the Australian Association for Research in Education, and the Committee on Research Activity of the Australian College of Education have meant a full and busy year.

I have been very grateful to Dr Williams and Mr Izard for their

sharing of administrative duties, particularly during the times that I have been away from the office either interstate or overseas.

Resignations and Appointments

The past 12 months have been marked with very few resignations. Mrs Patricia Larsen left the ACER to take up a lecturing position at the Institute of Catholic Education and Miss Jennifer Lord resigned to travel overseas. We also said farewell to Mr Greg Cornish and Mr Graeme Wilmot who were working with us on secondment from the Secondary Schools Division of the Victorian Education Department. In addition, we farewelled Mrs Elizabeth Scott from the typing pool, Mr Greg Barker from Distribution Services, and Mr John Kocotsi and Miss Guinever Threlkeld who held short-term appointments.

On the other hand we have welcomed many new members of staff. Dr Graham Hubbert joined the ACER to undertake work on the evaluation of the EPUY scheme, Mr John Mills to work on the evaluation of the Adult Migrant Education Program, Mr Graham Ward and Mr John White to work on the School Achievement Tests Project, Mr Robert Priest to work on the Australian educational data archives, Dr Warren Jones to work on the Employment of Graduates and Diplomates of the VIC, Mr Phillip McKenzie to work on the economics of education, Miss Linda Ryvitch, Miss Sue Girling-Butcher, and Miss Guinever Threlkeld to work in the Division of the Social Foundations of Education, Mrs Pat McLean to work in Educational Advisory Services, Miss Meredith Shears to work on the Career Guidance Project, and Mr Russell Hanna rejoined the Council to work as an artist in the Publishing Division.

In the Director's offices we have welcomed Mrs Margaret Taylor as secretary to Dr Williams, and in the General Office Miss Amanda Chynoweth and Mr Raymond Officer have joined us. In the Distribution Services Division, Mr Robert Gibson joined the staff and has kept the entrance to the building particularly neat and tidy.

On secondment from the Victorian Education Department we have welcomed in 1979 Mr Peter Martin to work on the development of the Chemistry Unit Tests, and Mr Mark Wilson and Mr Stephen Farish to work on the School Achievement Tests Project. In addition, we have been delighted that Dr Robin Rowlands, an old friend of the ACER and a long-standing member of the Executive Committee of the VIER, has joined the Council as an honorary member of staff to undertake all the small studies that are too difficult and too complex for others to do. His years of experience in schools and with the VUSEB before its demise serve him well in these tasks.

Education Research and Development Committee Fellows

The ERDC continues to send to the ACER for practical experience some of its research fellows and we have welcomed Miss Robyn Mellick from New South Wales, and Mr John Raftery from South Australia.

Work Experience

The ACER continued to participate in work experience programs conducted by three secondary schools. Several students from these schools spent periods of two weeks helping in the general office, printing, and clerical areas. Their contribution to the work of the ACER was greatly appreciated. In turn, the students expressed their appreciation of the opportunity to share in the type of multi-faceted work environment which the ACER provides.

The work experience program was extended to include three students from Swinburne College of Technology. As part of their 'practicum' requirement for the Graduate Diploma of Applied Social Psychology, the students worked with research staff for the equivalent of one month. In addition, students from the Ballarat College of Advanced Education and the Royal Melbourne Institute of Technology have had experience working in the ACER library.

Visitors

During the past year we have had several visitors who have stayed with us for extended periods. Of particular value was the visit from 11 February to 6 March of Professor Dr T. Neville Postlethwaite of the Department of Comparative Education of the University of Hamburg, Federal Republic of Germany. During his visit, he talked extensively with research staff on their plans for their studies and made many suggestions that have contributed to the conceptualization, planning, and conduct of a large number of studies.

Dr Postlethwaite, assisted by Dr M. J. Rosier, addressed on 2 March 1979 the Annual General Meeting of the Victorian Institute of Educational Research and, on 7 March, he addressed a meeting of curriculum research workers and curriculum developers, at the Adelaide College of Education and the Arts at the Underdale Campus, sponsored by the South Australian Institute of Educational Research. The subject of these talks was 'The role of educational surveys in curriculum development with examples from the Second IEA Mathe-

matics Study'. Dr Postlethwaite also visited Western Australia on 8 March and spoke to a meeting of the Western Australian Institute of Educational Research.

Dr David Andrich from the Department of Education in the University of Western Australia visited the ACER from 25 September to 20 October 1978. Dr Andrich, who is an expert in the theory and application of the Rasch latent-trait model of item analysis, conducted a series of seminars on this model and spoke about its application to the analysis of attitudinal response data. During his stay, he was consulted by ACER staff with an interest in the application of the Rasch model to current and projected testing programs. Moreover he made available to the ACER a number of computer programs which should greatly increase our capacity to undertake Rasch analyses of test data.

The ACER was honoured by the visit of Dr Lee, Dr Chin, and Dr Hsu of the Institute of Psychology, Academy of Science in Peking, Peoples Republic of China on 13 September 1978. The visit was arranged at the suggestion Professor J. A. Keats and Dr Daphne Keats who also visited us during that day. The visitors joined staff for lunch and talked formally for several hours afterwards on educational and psychological research issues of great interest to us all.

Mr Robert Ntumi, Head of the Measurement and Evaluation Unit of the Curriculum Centre in Ghana, arrived on 21 June 1979 to work at the ACER for six months on a Visiting Fellowship under the Commonwealth Co-operation in Education Program.

In addition, we have welcomed from overseas the following visitors who have spent several busy hours with us:

Mr J. Watson, Director, NZCER, New Zealand

Dr J. Schwille, Michigan State University, USA

Mr I. McHaffie, Ministry of Education, Ontario, Canada

Professor G. S. Fraser, Massey University, New Zealand

Mr. I. Livingstone, NZCER, New Zealand

Mr P. Sloss, The Netherlands

Dr D. Carlson, California Assessment Programs, Los Angeles, USA

Mr A. R. Asistin, The Phillipines

Dr Wynne Harlen, Chelsea College, London, UK

Mr S. Rassundhadham, Thailand

Dean Pas Ramos, University of the Phillipines, The Phillipines

Mrs Rosie Bonus, Ministry of Foreign Affairs, Manila, The Phillipines

Dr Wichit Srisa-An, Office of University Affairs, Thailand

Mr S. Josephs, Macmillan Publishing Limited, London, UK

Mr K. Eide, Director General of Education, Norway

Dr Rachel Seginer, University of Haifa, Israel

Professor C. K. Basu, Singapore

Mr R. Allaburton, Singapore

Dr J. D. Burnett, Queen's University, Belfast, Northern Ireland

Seminars and Staff Training

The Australian IEA Data Analysis Seminar was held at the ACER on 19 and 20 February 1979. This seminar followed the holding of a similar meeting at East Lansing, Michigan, United States early in February. The seminar was attended by the following visitors from interstate and overseas: Mr Roy Phillips, Mr Bob Garden, and Ms Roslyn Slemint from the IEA Co-ordinating Unit, Department of Education, Wellington; Mr Ian Livingstone, NZCER; Professor Jonathan Anderson, Flinders University of South Australia; Professor Don Spearritt, University of Sydney; Mrs Robin Thornley, ACT Schools Authority; Mr Bill Ackhurst, Department of Education, NSW. The seminar discussed at length the procedures of analysis to be used in the Second IEA Mathematics Study.

We have been grateful to Mr Ken Ross for conducting a series of seminars on sample design. These seminars were specifically designed to introduce more junior members of staff to the problems of sample design and the analysis of the data derived from complex designs.

Each week we have continued to hold work-in-progress discussions and we have been grateful to Dr John Ainley and Mrs Helga Rowe for arranging these lunchtime discussions.

Higher Degree Studies

Two members of staff have completed doctoral degrees during the year and we offer them our warmest congratulations. Dr Glen Smith was awarded the degree of PhD by the University of Adelaide for his thesis titled 'Studies of compatibility and a model of choice reaction time'.

Dr John Ainley was awarded the degree of PhD by the University of Melbourne for his thesis 'An evaluation of the Australian Science Facilities Program and its effects on science education in Australian schools'.

Professional Travel Overseas

Dr Jan Lokan, while on leave overseas in July and August 1978, visited Europe as an invited speaker at the XIXth Conference of the International Association of Applied Psychology in Munich. While in England she visited Dr Donald Super in Cambridge to discuss with him work that she was undertaking to modify the Career Development Inventory for use in Australia. In the United States, she dis-

cussed with Mr Vitella of the Educational Testing Service the use of the Program for Assessing Youth Employment Skills (PAYES) in two ACER studies.

Mrs Helga Rowe, while on leave overseas in November 1978, visited Japan, Belgium, France, and West Germany. During these visits, discussions were held with teachers and psychologists in these countries concerning the role and design of measures of readiness of school beginners and measures of school achievement of primary school students with particular reference to the criteria used in such measurement.

At the ANZAAS Congress in Auckland, New Zealand in January 1979, Mr J. F. Izard presented a paper on 'The influence of stimulus properties on some concept identification learning tasks' and Dr M. J. Rosier presented a paper on 'Changes between 1964 and 1978 in the mathematics curriculum and achievement of Australian 13-year-old and final-year secondary students'. While in New Zealand, Mr Izard met with Mr John Watson and Dr Geraldine McDonald, Director and Deputy Director of the NZCER, to discuss collaboration between the NZCER and the ACER. Dr Rosier visited the IEA International Centre for the Second IEA Mathematics Study and the Department of Education, Wellington.

Mr J. F. Izard travelled to the United States to attend a meeting of the International Association for Educational Assessment, held at Educational Testing Service, Princeton, New Jersey from 28-31 May 1979. Following the meeting, he worked at ETS for a period of two months meeting staff and examining new developments in the field of measurement and evaluation.

Dr T. H. Williams travelled to Stockholm in May 1979 to act as opponent at the public defence of a doctoral dissertation. While in Stockholm he carried out consultancy work, giving advice on the procedures to be employed in the further analyses of the Malmo data by the staff of the Institute for the Study of International Problems in Education at the University of Stockholm. Dr Williams returned to Australia via Newfoundland, Toronto, and Washington, where he discussed aspects of the School Leavers and Staffing and Resources Studies with people at those centres.

Mr P. Jeffery visited NZCER in Wellington, New Zealand in May 1979 to examine the advisory, sales, and distribution procedures employed by NZCER. In particular, he had lengthy and detailed discussions with the Director, Mr J. Watson and the Editor of *set*, Mr L. Richards, concerning the preparation and production of the first Australian edition of *set* and the launching of *set* in this country.

Dr A. M. Fordham visited Hamburg and West Berlin, Federal Republic of Germany in May 1979 to attend a meeting held in connection with the IEA Classroom Environment Study at the Max Planck Institute, West Berlin.

Long Service Leave

Mrs Diana Bradshaw returned from a period of long-service leave in England in November 1978. While overseas she attended the International Congress of Applied Psychology at Munich. In addition she visited NFER, with her husband, Mr G. D. Bradshaw, and Professor Gordon Stanley, to discuss the development and use of the British Ability Scale which had recently been released by NFER.

Dr Marion de Lemos travelled overseas for an extended period of long-service leave early in June 1979, and Mrs Noel McBean took long-service leave within Australia.

Lecturing and Other Commitments

At Melbourne University, Mr John Izard and Mr Kenneth Ross have continued with conducting a semester course in Measurement and Evaluation in the BEd program; Mr Graeme Withers has accepted responsibility for a term course, also in the BEd program, that is concerned with 'Secondary School Examinations' and Dr Trevor Williams and Dr Keeves are taking the course in the MEd program titled 'Educational Environment and Student Achievement'. Other members of staff assist from time to time with lecturing in these courses.

The ACER has continued to maintain close links with the Curriculum Development Centre in Canberra. Mr Bourke has been a member of the Management Committee for the MATHSHOP Project, and Mrs Findlay is a member of the working group in Information Services.

Staff of the ACER have continued to assist the Victorian Education Department in the administration of the Disadvantaged Schools Program. Mr Izard and Mr Ross have been members of the Supplementary Grants Committee, and Mr Priest has carried out the data analyses to investigate the strength and usefulness of the indices employed by this Committee for the identification of schools. Mr Bourke and Mr Jeffery have also given advice to area committees working under this program. In addition, Mr Piper has been a member of the Victorian Advisory Committee on the Teaching of the Social Sciences in Secondary Schools.

During the year, Mr Jeffery has resigned as Editor of the Journal of the Modern Teaching Methods Association, and Dr Rosier retired as Secretary of the Australian Science Teachers Association, a position he had held since August 1971. Dr Rosier continues as Executive Member for the Asian Region of the International Council of

Associations for Science Education. In addition, Dr Ainley has held the position of Acting Editor of the Australian Science Teachers Journal, Dr Williams has been Chairman of the Research Committee of the Australian Pre-school Association, and Mrs McBean has been a member of the Committee of the Victorian Branch of the Australian Reading Association.

Assistance has been given by ACER staff to the Victorian Institute of Secondary Education. Dr Ainley has been a member of the Chemistry Standing Committee and the Science Standing Committee, and Mr Withers has been a member of the Accreditation Committee of the Institute.

CONCLUSION

It is to be expected, at a time when it is necessary and possible to extend the buildings occupied by the Council, that consideration should be given to whether it is desirable to separate the research component of the Council's activities from the sales and distribution services component, setting up a separate publishing company and sales organization. These possibilities were rejected largely on the grounds that a research and development organization requires a strong and vigorous outlet for the products of its work. Moreover, if maximum benefit is to be gained from the program of research and development, then it is essential that the publishing and sales activities are integrated fully with those activities that form the bases for the Council's existence. These were the arguments that led to a continuance of the administration and organization in its current form.

As a consequence of this decision, it is important for the research and development staff of the Council to recognize that they are not undertaking their research in a ivory tower remote from the real world. They have an obligation to ensure that the findings of their research are used by students, teachers, parents, school and system administrators, and by the decision makers of our society. Sometimes the products of the research and development activities of the Council lead to materials and tests that are used in schools and classrooms and, in these cases, the products of research are transmitted directly to the users. Frequently, however, the products of research and development involve ideas and generalizations that have no direct application in the world of education, but do nevertheless have implications for the way those concerned with education think and act. Sometimes too the findings of policy-oriented research have direct consequences for the determination of policy associated not only with schools but also with other aspects of our society.

The problem that confronts a research and development institution and its staff is one of determining how best to disseminate the results of its work to those who have need for the findings. The question that faces the Council is one of influencing the thinking and the actions of just under 200 000 teachers, many thousands of administrators, several millions of parents in Australia, and through them the students in Australian schools and educational institutions. The task is a challenging one and too complex to be discussed in the closing pages of an Annual Report. In the past 12 months, we have started to look critically at the circulation of our books and to consider ways in which we can increase their visibility. In this respect, we are grateful to Mr Peter Jeffery for the *Press Releases* he has prepared to promote these publications and the efforts that have gone into the preparation

of the *Newsletter*. We are also grateful to Mrs Diana Bradshaw for her efforts in issuing the *Bulletin for Psychologists* twice each year.

A new venture that we have embarked upon during the past 12 months involves working in close collaboration with our sister organization, the New Zealand Council for Educational Research, in the publication of an Australian edition of *set*. We are hopeful that this publication will be read widely by teachers in the staff rooms of schools and its contents will be discussed and debated with interest, leading to application in practice. We are grateful to the Director of the NZCER, Mr John Watson, for his willingness to allow us to join with his organization in publishing material that they have shown to be greatly appreciated in their country.

However, during the coming months as we plan to celebrate the 50 years since the founding of the Australian Council for Educational Research, we must not only look back at what has been accomplished in the past, but also look forward to how best we can influence education in the future. We believe that it is the responsibility of each and every member of staff to take part in the process of dissemination of the products of the research and development activities of the Council, and it seems fitting that over the coming 12 months we should direct our thoughts and our debates to the question of how best this might be achieved.

Contributions to Council Funds

The Council acknowledges, with thanks, the following contributions received during the financial year ending 30 June 1979:

Australian Governments: General Grants for Research

Commonwealth	\$275 000
New South Wales	104 857
Victoria	75 900
Queensland	40 315
South Australia	24 585
Western Australia	19 800
Tasmania	9 543

Special Grants

Grants to specific projects were made by:

Commonwealth Department of Education

Curriculum Development Centre

Commonwealth Department of Immigration and Ethnic Affairs

Education Research and Development Committee

Schools Commission

Tertiary Education Commission, Technical and Further Education
Council

Victoria Institute of Colleges from the Malcolm and Anna Moore
Estate

and from the

State Education Departments through the Australian Education
Council.

ACER Staff

(As at 1 July 1979)

DIRECTOR

John P. Keeves, BSc, DipEd, MEd, PhD, fil dr, FACE, FASSA

ASSISTANT DIRECTORS

John F. Izard, TPTC, BSc, MEd, MACE

Trevor H. Williams, BSc, DipEd, BA, MA, PhD, MACE

RESEARCH AND DEVELOPMENT

John G. Ainley, BSc, MEd, PhD, MACE, ARACI

Margaret Batten, BA, BEd, MACE

Sidney F. Bourke, BSc, BA, LittB, MACE

Jeffery J. Clancy, BA

Robert W. Davey, BA

Marion M. de Lemos, BSc(Hons), MSc, PhD, MAPsS

Gwendolyn Ellemor, BSc

*Stephen Farish, BSc(Hons), DipEd

Adrian M. Fordham, TSTC, BSc, BEd, PhD

Sue Girling-Butcher, DipMedTech, BA

Allyson Holbrook, BA, DipEd

Faye Holzer, BA, BEd

Graham D. Hubbert, BSc(Hons), PhD, MACE

Barbara R. Johnson, BA, BEd

Warren B. Jones, BSc(Hons), PhD MAPsS

Lex Lees, BA, DipEd

Janice J. Lokan, BA, DipEd, PhD, MIAAP

*Peter Martin, BSc, BEd

Jillian Mason, BA(Hons), DipEd

Noel McBean, BA, DipEd (part-time)

Phillip A. McKenzie, BEc(Hons), DipEd

John M. Mills, BA(Hons), DipEd, MEd

George Morgan, BSc(Hons), DipEd, MSc

Kevin J. Piper, BA(Hons), DipEd

Robert A. Priest, BSc

*M. Claire Robinson, BSc, DipEd, DipEdPsych

Malcolm J. Rosier, BSc, MEd, PhD

Kenneth N. Ross, BSc, MEd

Helga A. H. Rowe, BA(Hons), MAPsS

Robin G. Rowlands, BA, MEd, PhD, FACE (Honorary Member of Staff)

Linda Ryvitch, BA
Meredith Shears, BA(Hons) (part-time)
Glen A. Smith, BSc(Hons), PhD
Andrew Sturman, BSc(Hons)
A. Graham Ward, MA, BEd, MEd
Evelyn Watson, BA
John E. White, MA
*Mark Wilson, BSc(Hons), DipEd
Graeme P. Withers, BA, ACTT

*Seconded staff from the Victorian Education Department

ADVISORY SERVICES

Educational

Peter Jeffery, TPTC, BA, BEd
Patricia McLean, BA, BEd

Psychological

Diana M. Bradshaw, BA, DipEd, MAPsS
Josephine C. Jenkinson, BA, MAPsS

Test Library and Reference Materials

Pamela Burns (part-time)
Gwenneth Dobell (part-time)

LIBRARY

Margaret A. Findlay, BA, ALAA
Christopher J. Cook, BA(Hons), ALAA
Elsbeth Miller, BA(Hons)
Marie Pernat, BA, ALAA (part-time)
Lula Psiliakos, ALAA (part-time)
Betty J. Segar (part-time)

PUBLISHING

Don Maguire, HNC
Russell J. Hanna, Assoc Dip RMIT, DipEd
Bronwyn Hay, BA(Hons) (part-time)
Marcel Leman

ACCOUNTANCY

Phyllis M. Staurengi, BA, BCom (Accountant)
Ruth Ambrose
Marie Crisp
May Young
Margaret Palmer

SALES AND DISTRIBUTION

Eric McIlroy
Alan W. Wilkins
May E. Clark
Peg Engellenner (part-time)
Bruce Fulton
Peter S. Gale
Sidney A. Gale
Robert Gibson
Jill Harding
Isabel Miller
Steve O'Neill
Maisie Peel
John Wilson

SECRETARIES TO THE DIRECTORS

Marjorie Balloch
Yvonne Allen (part-time)
Maree A. Taylor
Margaret R. Taylor

GENERAL SECRETARIAL AND OFFICE SERVICES

A. Dawn Cooke
Denise Bellamy
Win Boyce (part-time)
Carolyn Bretherton
Amanda Chynoweth
Judith Clark
Merrille Corless (part-time)
Robyn Hughes
Beatrice Raiola
Jean Ramus (part-time)
Carol Shackleton (part-time)
M. Doreen Webb (part-time)

CLERICAL AND TECHNICAL ASSISTANTS

Claire Bayley
Edith D. Cooper (part-time)
June Maunder

State Institutes of Educational Research

Nature and Function

The State Institutes are autonomous bodies, each nominating one representative to the governing body of The Australian Council for Educational Research, and co-operating closely with it when occasion requires. In 1956, at a meeting held in Melbourne, these representatives formulated the following statement of the nature and functions of an Institute. In general, as the reports printed later will show, they carry out the functions in different ways and with different emphases.

The object of the Institute is to act as a learned body devoted to the promotion of study and research in education, emphasizing the scientific study of educational problems, by means of the following activities:

- A Disseminating
 - (i) research, either
 - (a) the results of specific pieces of research done by members; or
 - (b) reports on the collection of research information;
 - (ii) opinion and accounts of practice in education.
- B Participating in
 - (i) the discussion, planning, and criticism of research projects;
 - (ii) the active carrying out of research projects.
- C Establishing areas of contact with other educational groups.

Membership on Council of ACER

The term of office of an Institute representative on the Council of the ACER is four years, and the dates of appointment are arranged to provide a continuity of membership of the Council.

NEW SOUTH WALES

Office Bearers:

Patron: Sir Harold Wyndham

President: Dr L. J. Higgins

Vice-Presidents: Professor D. Drinkwater, Mr R. Catts, Dr D. Thew

Secretary: Mr R. Philps

Treasurer: Dr E. Southwell

Librarian: Ms J. Cust

Delegate to ACER: Associate Professor R. Debus

Alternate Delegate: Professor J. Keats

Assistant Editor of Australian Journal of Education: Dr J. Sheppard

Additional Committee Members: Dr I. Smith, Mr J. Shellard

Co-opted Committee Members: Mr D. Thew, Dr J. Barrett, Dr K. Sinclair, Dr J. Miles

Meetings

Meetings for 1979 were organized around the theme 'The child in the changing world'.

2 March 1979. Mr R. Stroobant, Sydney University, 'Some general perspectives'

30 March 1979. Mrs L. Kennedy, 'The Shepherd Centre: The special child in a changing world'

20 April 1979. Professor R. Connell, Macquarie University, 'The class situation and educational fate of adolescents'

The Executive met five times during its term.

NEWCASTLE BRANCH

Office Bearers:

Chairman: Dr J. Miles

Vice-Chairmen: Dr M. Jurd, Dr D. Huxley, Mr J. Foster

Secretary: Mr P. J. Moore

Treasurer: Mr W. Howard

Additional Committee Members: Dr E. Braggett, Dr J. Kirby, Dr D. Keats

Branch Meetings

3 October 1978. Mr D. Francis, 'Teachers as curriculum builders'

10 April 1979. Dr J. Miles, Mr T. Fullerton, Mr W. Howard, 'The assessment of student teacher performance'

15 May 1979. Mrs J. Cashmore, 'Different cultural groups' concepts of schooling and intelligence'

27 June 1979. Professor R. Laura, 'Science, education, and psychic phenomena'

Membership

There are currently 151 financial members of the Institute including 47 at the Newcastle Branch.

Financial Statement

The Institute had a credit balance of \$1149.06 at 13 August 1979. Newcastle Branch had a credit balance of \$593.15 at 15 August 1979.

Publication

With the assistance and support of the ACER, the Institute's series of 1978 addresses are being published under the title, *Educational Research for Policy Making in Australia*.

Other Activities

During 1979, the Institute was represented at each of the public seminars organized by the NSW Ministry of Education under the general title of 'Is it time for an education audit?'

The Institute also made a formal submission to the NSW Committee of Inquiry into Teacher Education.

Acknowledgments

The Institute wishes to express its appreciation to Dr R. Rawlinson, Principal of Alexander Mackie College of Advanced Education, and Dr E. Richardson, Principal of Newcastle College of Advanced Education, for use of College facilities, and to its other supporters who have materially assisted our activities during the past year.

VICTORIA

Office Bearers:

President: Dr L. W. Shears

Vice-Presidents: Miss I. Palmer, Dr G. Allen

Honorary Secretary: Mr A. J. P. Natrass

Honorary Assistant Secretary: Mr K. Hall

Honorary Treasurer: Mr F. Hindley

Delegate to ACER: Dr G. Whitehead

Executive Members: Dr R. Rowlands, Mr H. Hobbs, Miss A. Ridsdale, Mr G. D. Bradshaw, Mr M. Boyce, Mrs M. Ainley

Primary Education Today Group Representative: Mr T. Holland

Research Group Representative: Mr I. Ball

The Executive has been assisted during the year by Mr M. Quin.

Meetings

29 September 1978. Frank Tate Memorial Lecture. The Hon. N. L. C. Batt, MHA, Deputy Premier of Tasmania and National President of the ALP, 'Public policies and education'

December 1978. Dr Dale Carlson, Director, Assessment Unit, Department of Education, California, 'The establishment and implications of a state assessment program in education'

1 March 1979. Annual Meeting. Professor Dr T. Neville Postlethwaite, 'The implications of international studies for curriculum planning in Australia'

Membership

As at June 1979, the membership was 363 (cf. June 1978, 358).

Emeritus Professor W. F. Connell has accepted Honorary Life Membership.

VIER Bulletin

The December 1978, No. 41, and June 1979, No. 42, issues have been published.

Regional Groups

There are no Regional Groups in operation at present.

Primary Education Today Group

24 - 26 October 1978. Seventeenth PET lecture series. 'School-based curriculum — myth or myhttake'.

The PET program apparently proved worthwhile, and the PET Executive aims to continue presenting a program to satisfy the members' needs.

G. S. Browne Prize

Educational Research Prize: 'The teaching of transformational strategies in an attempt to improve children's problem-solving abilities' by Elaine Chamberlain and Peter Munro.

QUEENSLAND

Office Bearers:

Patron: Mr W. Wood

President: Mr P. Varley

Vice-Presidents: Miss J. Bedford, Professor W. J. Campbell, Mr P. Maccoll

Honorary Secretary: Mrs D. Muir

Honorary Treasurer: Mr B. Skidmore

Executive Members: Mr N. Alford, Mrs M. Carss, Sister Joan Mary Farnham, Mr J. Jacobson, Professor B. H. Watts, Mr R. Warry

Representative to ACER Council: Mr N. Alford

Honorary Auditor: Dr L. Miller

Assistant Editor of Australian Journal of Education: Mr R. Warry

Meetings

The QIER took as its theme for 1979 'Education for the eighties' and the lecture program is in line with this chosen theme. The Bardon Professional Development Centre is now regularly used for all meetings. Each session is tape recorded and later transcribed, edited, and published jointly by QIER and the Bardon Professional Development Centre. In an attempt to increase membership attendance at the lecture program, well-known speakers have been invited to address QIER. This has been partially successful and it seems that speakers who are involved in specific topical issues or matters of current educational concern can attract large audiences.

7 March 1979. Annual General Meeting

30 May 1979. Mr M. Ahern, MLA, Chairman of the Parliamentary Select Committee of Inquiry into Education, 'Issues arising from the Parliamentary Report'

The Executive now meets regularly on the fourth Monday of the month. This practice has ensured a more efficient handling of QIER day-to-day affairs, provided better planning and execution of meetings and lectures, and helped to maintain continuity of activity through the year.

Membership

The QIER has 86 fully financial members at present, including 10 new members this year. Membership continues to draw most heavily upon tertiary education institutions and the Queensland Department of Education.

Publication

The QIER Journal continues to be published three times a year and has proved popular with the membership to the extent that a number of country members are maintaining their subscriptions to QIER largely for the Journal. Institutional subscription is increasing again.

Other Activities

Attendance at meetings still tends to fluctuate. The QIER Executive has formed a sub-committee to investigate establishing one- or two-day workshops on very specific themes that might not have been already offered by the many subject and other associations. These would be research oriented, possibly to enable practising teachers to develop research and evaluation skills that could be of direct application to their own classrooms.

QIER History

Mr N. Anderson, a long-standing member and office bearer of QIER, has undertaken to compile a history of the QIER.

Financial Statement

The balance for the 12 months ending 31 December 1978 was \$1667.52, and the monthly balance for June 1979 was \$1030.93. The QIER has been able to maintain membership fees at \$5.00 per year with an additional \$8.50 for subscription to the Australian Journal of Education.

SOUTH AUSTRALIA

Office Bearers:

President: Dr B. J. Webber

Vice-Presidents: Dr A. J. Shinkfield, Mr R. S. Coggins

Honorary Secretary: Mr W. R. Hosking

Honorary Treasurer: Mr D. Dent

Assistant Secretary: Mr K. Reay

Executive Members: Dr E. R. Sandercock, Ms J. Nicol, Mr B. Richardson

In July, Mr Hosking resigned due to pressure of other work and Mr Reay assumed his duties as Secretary for the rest of 1979. The resulting vacancy on the Committee was not filled as most of the planning for 1979 had been completed. Mr Hosking had served as proxy for Mr R. S. Coggins as representative to ACER in 1978. Dr Webber was elected SA Institute representative to the ACER.

Meetings

Six public meetings were scheduled for 1979, and the following meetings have been held:

27 February. Annual General Meeting. Dr Malcolm Skilbeck, Director of the Curriculum Development Centre, 'The role of the teacher in curriculum development'

1 May. Dr Deane Hutton, Senior Lecturer, Salisbury College of Advanced Education and Director, Visual Education Curriculum Project, 'Visual Education Curriculum Project: Aims, development and evaluation'

26 June. Mrs Judith Smith, Lecturer in Special Education, Mt Gravatt College of Advanced Education, 'The evolution of a research-based language program'

Normal practice was to hold an executive meeting one week prior to each of the public meetings. It was also hoped to have a regional meeting of the nature where classroom teachers are invited to present problem areas which they think require research and to have them discussed for refinement and action. For various reasons this proposed meeting did not eventuate. It is planned, however, to probe this concept further in 1980.

Membership

Financial membership has declined from 82 in 1978 to 54 in 1979. There were several reasons for this, one being the nature of the program adopted which catered for varying and specific interest groups. Although 112 people attended the public meeting on teacher selection which was well publicized, most of these people were interested in that topic alone and not the others offered in the program.

Financial Statement

General account \$1014.05, Special account \$309.55 at 8 August 1979.

Publications

Negotiations with the South Australian Institute for Educational Administration to share the publication of a Journal ceased in late 1978 when it became apparent that the venture would not be successful. Since then, consideration has been given to publishing the collection of papers presented to SAIER meetings as an annual bulletin. In the meantime, individual papers are being submitted to *Pivot*, the educational journal of the SA Education Department.

General Comments

Along with other State Institutes, the SA Institute has been seeking to formulate aims appropriate for the 1980s. It has perceived its role to be that of serving the classroom teacher, and the 1979 program with its emphasis on curriculum work reflects this. In each curriculum area discussed, considerable attention has been given to the evaluation component, consistent with the notion of research.

The Institute believes that it has a role to play in providing a forum for public debate on current educational issues where that forum is not provided elsewhere. This is evidenced by the extremely well attended public meeting on teacher selection, a meeting which was called at short notice because it was a problem area of immediate concern. Recommendations from this meeting were sent to education faculties of the SA tertiary institutions in an endeavour to initiate research in the areas delineated. They were also requested by the South Australian Institute of Teachers.

Finally the Institute can offer limited financial assistance for classroom research as well as expert advice from within its membership. It is currently working on proposals to publicize this facet of its program as there has been little call on this assistance to date.

WESTERN AUSTRALIA

Office Bearers:

Patron: Dr D. Mossenson

President: Mr M. Angus

Vice-President: Dr M. Clark

Immediate Past President: Mr J. Liddelow

Secretary/Treasurer: Mr W. McAtee

Committee Members: Dr J. Lake, Mr D. Tomlinson, Mr T. Edwards

Assistant Editor of Australian Journal of Education: Professor B. McGaw

Honorary Auditor: Mr Krentzin AASA audited the books for 1978-79.

Meetings

3 August 1978. Professor Jerome Murphy discussed trends in Federal/State financial relations in education in USA.

23 August 1978. Professor Hersh spoke about the influence of teachers, parents, and schools on the development of moral teaching.

26-27 October 1978. Workshops on 'Sampling for survey research', led by Mr Ken Ross from ACER, were well attended and well received.

7-15 November 1978. AARE Conference, Perth. WAIER members were invited to lectures by Dr Kim Beazley, 'Heritage and future'; Dr Gene Glass, 'Product and process'.

1 December 1978. Survey of members' interests, backgrounds, and views on the program of WAIER.

13 February 1979. Dr Edward de Bono discussed ideas about 'thinking'.

8 March 1979. Professor T. N. Postlethwaite spoke on the role of educational surveys in curriculum development with examples from the second IEA mathematics survey.

3 April 1979. Annual General Meeting.

April 1979 Replies received and collated from other State Institutes regarding formation of a National Secretariat.

23 April 1979. Executive Meeting of WAIER. Mr Max Angus was elected representative to ACER.

30 May 1979. Research and development on computers for schools with a panel: Dr Mike Mocciola, WAIT, Mr Tony Watson, Mt Lawley CAE, Mr Clive Griffiths, Education Department of WA.

14 June 1979. Dr Miles Nelson, 'Teacher effects on class learning'.

This paper was published by WAIER as Issues in Educational Research VI.

Membership

Financial members: 96

Subscriptions to AJE: 63

Unfinancial members: 45

Honorary members:

(Prize winners) 14

Prizes

Churchlands CAE: Ian Ken

Nedlands College: Catherine Scholfield

Graylands College: Alan Spencer

Mt Lawley College: John Harris

Claremont College: Glenys Richards, Cheryl Jullienne

R. G. Cameron Prize (University of Western Australia): Michael Williams

WAIER Survey of Members' Interests and Responsibilities

In order to review the program of WAIER during 1978 and plan a program for 1979, the Executive conducted a survey of members' interests and responsibilities.

The following summary was made from 90 responses which represent 64 per cent of current active membership. (Current active members are those who paid 1978 fees.)

Summary

- 1 Over one third of the respondents are members of ACE, and about one quarter are members of AARE. About one fifth are members of a subject organization and about one third belong to at least one other club. Only nine members who responded are not a member of any other organization.
- 2 Of the 90 respondents most (51) are responsible for teaching teachers and trainee teachers in areas other than educational research methods. This supports the finding that the major interest of more than one quarter of the members is learning and instruction. There is also considerable interest in educational measurement and research, and curriculum theory and development. This can be put beside the finding that about one quarter of the members have educational research responsibilities. Although about one quarter of the members (26) have responsibility for administration of part, or whole, of an educational institution, only twelve mentioned administration as a special interest.
- 3 About 20 per cent of the respondents attended meetings.
- 4 The idea of future workshops was well supported. About half (42) said possibly, and 27 said almost certainly they would attend.
- 5 Most (67) favoured the non-residential two-day format for workshops.
- 6 There was support (54) for activities directed towards the interests of the practising primary and secondary school teacher.
- 7 While 45 respondents would like more information about ACER activities, 43 consider that the present newsletters provide adequate information.
- 8 There was strong support (73 members) for more information

about activities of Institutes of Educational Research in other States.

Inferences

- 1 The selection of meeting dates and discussion topics should take into account the proportion of WAIER members who are members of other associations.
- 2 Since many members are involved in teaching teachers and trainee teachers, it is understandable that there is widespread interest in learning and instruction, and in curriculum development and research. Although matters concerning research and educational measurement which are immediately applicable in Western Australia are also of interest, it is possible that activities could be planned for teachers.
- 3 The objects of WAIER include bringing suitable areas for educational research to the attention of members, and conducting research activities. Since the workshop on 'Sampling' received considerable praise, the arrangement of future workshops seems a feasible activity.
- 4 Correspondence is received from and sent to other State Institutes of Educational Research in Australia. Since there was strong support from WAIER members for more information about activities in such Institutes, and other State Institutes have expressed similar interests, it seems necessary to establish closer liaison. The address of each other State Institute has been placed on the WAIER mailing list.