

australian council
for educational research

AUS

fortieth
annual report 1969-1970



FORTIETH
ANNUAL REPORT
1969-1970

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R. G. Peter, D.F.C., M.A., B.Ed., A.I.E. (Lond.), M.A.C.E.

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OFFICIAL REPRESENTATIVES*Directors-General of Education*

A. V. Gough, B.A., B.Ed., F.A.C.E.

Commonwealth Department of Education and Science

D. M. Morrison, B.A., Dip.Ed., M.A.C.E.

Notes

Professor R. Selby Smith was appointed to the Executive during the year.

As Dr R. Adam was unable to complete his term as the WAIER representative, Mr R. G. Peter was appointed by that Institute to complete the period of appointment.

In response to the formal invitations issued by the ACER Council in 1969, the Directors-General and the Commonwealth Department of Education and Science have each agreed to be formally represented on the Council instead of continuing the previous practice of sending an observer to the annual meeting.

As Mr Gough was overseas at the time of the 1970 annual meeting, Mr F. H. Brooks represented the Directors-General at the meeting. As Mr D. M. Morrison was overseas, Mr P. J. Bowler represented the Commonwealth Department of Education and Science.

Annual Report by the Director

Presented to the Annual Meeting of the Council, 19-20 October 1970

I: SOME COMMENTS ON THE INTERNATIONAL SCENE

This annual report is not the place to comment on the whole international scene, but certain events on that scene during the year and information received at the ACER about them merit some reference, I believe.

DEVELOPMENT OF EDUCATIONAL RESEARCH—UNESCO

Document No. 6 in the series of twelve devoted by UNESCO to priority themes in International Education Year 1970 is entitled *Development of Educational Research*. Amongst other comments made in this relatively brief overview, these strike a familiar note:

- that methods, techniques, ideas, and findings from research in one country are not always applicable or suitable in another: national research for national purposes is usually essential;
- that there is an urgent need to train more educational research workers: 'No country' [it states] 'has more than a small nucleus of competent persons with research training and experience', and goes on . . . 'There are very few *full-time* research workers . . .';
- that because the basic disciplines in which many research workers have been trained are limited in number and character, there are many problems not being dealt with because neither the interest nor the techniques is available in established centres;
- that the nature of the training of research workers needs re-examination, because many of the problems of the relation of education to society require collaborative rather than individual effort, and few are trained in this;
- that the role of the teacher as initiator, consumer, and participant in research needs to be clarified.

The document puts forward the proposition that the long-established view that researchers in education should have been trained initially as teachers and spent time in teaching is not a

valid one and may, in fact, delay by years the readiness for research of many very competent teachers.

Pointing out the tendency for the attitudes of the educational researchers to move closer to those of researchers engaged in 'natural science' research, the document forecasts that during the next two decades we may see a separation 'between the educational research world and the universe of educators', a separation which it interprets as a 'divorce'.

It is interesting that Australia is stated, along with Sweden and USA, to be amongst the leading countries in exploiting educational research, although even in these, the estimate of expenditure in 1965 was 'less than one per cent'—presumably of total educational expenditure.

Organizational patterns for research are seen to be changing. National councils of different kinds are being set up in many countries. One of the possible effects of these is seen as '... to shift research out of the traditional university-type pattern harnessed to writing theses and qualifying for degrees and reflecting the special interest of individual professors, into what will seem to many a more mechanistic pattern reflecting the demands of the large-scale consumer of research in relation to a tightly organized institutional supplier of research'. In pursuing the question of the relation between consumer and supplier, the document points out the danger to the supplier of jeopardizing the necessary 'undogmatic and critical attitude' in the interests of meeting deadlines and satisfying the client, and calls for care on the part of those administering and controlling research to ensure that unsuitable rules are not applied to judge either processes or results.

The document is designed for discussion and debate, and it should encourage a good deal of it!

OTHER DEVELOPMENTS—EUROPE

There are many indications in Europe of a vigorous growth in interest in research into educational problems, and particularly of its place in planning and development in education. We have become accustomed to such growth and interest in the USA and Canada, and been aware of it in the United Kingdom as the Ministry of Education and Science and the Schools Council became more active in sponsoring inquiry and innovations. Europe has made in the last year or so a number of significant moves to give more attention to research and its place in planning.

Three centres in Europe appear to be undertaking studies of the European scene. The Council of Europe some years ago showed an interest in the wider use and application of research in education and more recently has been undertaking surveys of present research activity in Europe as well as of the status and financing of this activity. A semi-private body, the European Cultural Foundation, has undertaken a massive study called 'Europe 2000'. Within its broad coverage education has a significant part, and a study of research into education is one of the projects which has been commissioned within the study of education. Dr Eve Malmquist of Sweden is conducting the study, which promises to provide not only a map of educational research but a series of useful contour lines on that map.

Working apparently in close contact with this study is the fairly recently established Centre for Research and Innovation in Education developed within the OECD headquarters in Paris. Already a small team under OECD auspices has visited the USA and examined the research scene there. The former Director of Research in the US Office of Education, Richard Bright, and some of his colleagues, prepared a comprehensive statement on research in the USA which the OECD examined both before and during a meeting in Paris between the authors and OECD participants.

The results of both the original survey and the 'confrontation' in Paris, as it is interestingly called, are shortly to be published. Also as part of OECD's activities the Directorate of Scientific Affairs of OECD has had prepared a number of documents relating to educational research and planning—both general and statements of the position within particular countries. Most of these, although prepared more than twelve months ago, have not yet been published.

In a general summary of the relation between research and planning, the Directorate considered that the greater readiness to use the results of research in decision-making in OECD countries reflects the greater readiness of research to deal with the educational process as a whole and with its functioning within and interrelatedness with the large social, political and economic context in which education is placed. This reflects the development of the sociology of education and the economics of education as respectable fields of research activity.

Nevertheless, despite the claim that pedagogical research—the relation between the teacher, the task, and the taught—has been much less prominent in the last few years in the European scene, the broad research priority fields, on which it is claimed almost

a consensus between OECD countries seems to have been reached, are not as broad as the foregoing might suggest. They are

- curriculum research,
- research into methods of evaluation and testing,
- research into the effects and possibilities of new teaching aids and techniques,
- research into the impact of pre-school education,
- research into children's language development in its interaction with the family and social environment,
- research into educational achievement and the factors which affect it.

The Directorate, like the unstated author of the UNESCO Document 6, sees a deliberately maintained and marked distance still occurring between the research worker and the planner, because the former tends to see the latter as directly committed to legislative policies, and presumably therefore not necessarily a free agent to use research truth as the researcher sees it. Nonetheless it foresees as an imperative the closest possible relation between research and planning. Planning must serve the continuous adaptation of education to the new needs of students and the new demands of society. These needs and demands must be measured, and the nature of alternative approaches to them assessed. If decisions made are to be consistent they must be based on more than unsupported opinion. There is need, the Directorate has stated, for a permanent flow of research data before decisions are taken, and a flow of evaluation data about their effects afterwards. It is aware of the difficulties of combining the free initiative and administrative independence which it sees as desirable for the research worker with the necessarily political or administratively based activity of planning. It foresees that the two could establish different institutional frameworks, each suited to its own perception of its role, and not working as closely together as is desirable. It cannot as yet offer any definite recipe to ensure close collaboration.

The European scene and the OECD scene, which includes Canada, Japan, and the USA, are changing rapidly. Research in education is obviously acquiring status. Expectations of its potential are high, but there appears to be enough realism about it to know that quick results and complete data are not likely to be achieved in a short time by research on many of the major problems. Both the fundamental research seen as typical of university centres, and especially commissioned planning-oriented research perhaps more

appropriate to other centres, will be necessary to establish the required data.

THE SCENE IN THE USA

In July 1969 the US Office of Education Bureau of Research announced that it was inviting research workers in the biological, behavioural and social sciences to submit proposals under a new one-year program of basic research. The invitation specified: 'We are looking for basic research proposals that will produce new knowledge or add to existing knowledge that is relevant to progress in education. Our target is the continuous improvement of teaching and learning, the educational process, and the various environments for learning.'

A number of grants have been made under this scheme since then. The first were notified in September 1969 and included studies in the way pupils learn to pay attention, the impact of rewards on memory, and the relation between body chemistry and achievement. Later studies have been funded on such topics as

- the attitudes that teachers develop towards their students because of the way children speak English and how such attitudes affect teacher behaviour towards the children;
- how the principle of transfer operates in acquiring a second language;
- the mental processes involved in understanding sentences;
- how differences in people are related to their ability to learn;
- what determines the teaching styles of college professors;
- the relation between the intellectual growth of disadvantaged infants and their attachment to their mothers;
- differences in the perceptual abilities of normal children;
- how youngsters develop awareness of space;
- eye movement disorders among children with reading disabilities;
- goals and motivational effects in the elementary school;
- the use of cortical evoked potentials in studying cognitive function;
- development of political thinking in urban adolescents.

These represent only a small part of the amount being spent in the USA on research in education. Their cost so far appears to have been less than \$2m. (US). I have referred to them because they illustrate to me the important dilemmas that must face any group concerned with funding or undertaking research. They are dilemmas arising from the range of educational activity, the value judgments that are involved in judging whether these are basic

or not, and the difficulty of deciding even within a common scale of values what is basic or what is fundamental. The dilemmas are perhaps implicit in lack of clear definition of terms and the seeming impossibility of delimiting in a sensible way such matters as 'teaching and learning', 'the educational process', 'environments for learning', 'critical problems in educational theory, policy and practice', to quote some of the phrases being used.

Yet, if the attempt is not made, it seems inevitable that some scarce resources in qualified manpower may not be used as fruitfully for educational practice as they could be, and that some research studies will be done which have no foreseeable value in theory, policy or practice. One reaction to this has been succinctly expressed by Mr Nixon in his presidential address to Congress in March of 1970: 'We need [he wrote] a coherent approach to research and experimentation.' He proposed a National Institute of Education as a focus for educational research and experimentation, and amongst its proposed functions was, significantly: 'The Institute would set priorities for research and experimentation projects and vigorously monitor the work of its contractors to ensure a useful research product.'

Mr Nixon went on to indicate some of the priorities himself, although in broad terms—compensatory education, the right to read, television and learning, and experimental schools. These are, of course, so broad in their range that it is easy to relate almost any contemplated study to one or other of them. They may help in classification, but they give little help in determining priorities between projects.

The attempt to direct grants to 'basic' topics and Mr Nixon's proposals regarding the Institute reinforce comments made in some recent European writing about the implicit conflict between the traditional autonomy of much research activity and the needs of planners and other consumers of research, for research which provides answers to problems needing decision within a limited time. It seems to me that there is no irrevocable conflict between autonomy and need. It is rather that both have their place, that the balance between them changes from time to time, and that it is the research community and not others which must draw attention to imbalance.

AUSTRALIAN RESEARCH

The steady growth of Australian research effort in education and its performance over the last decade appear to me to be—in the light of both the US events referred to and the European

comments and activities—of considerable merit. To use a current distinction, both the more 'conclusion-oriented' research of the uncommitted research workers with a long time-span and the belief that 'odd' facets of data are worth exploring, and the 'decision-oriented' research required by the planner and the administrator, have been well supported by international standards, and much more strongly supported by Australian standards of as recent a year as 1965. More must be done, I firmly believe, but we do not need to hang our heads.

Some of the developments on the Australian scene set out below give hope for an even more rapid growth over the next decade.

General Comments

A number of important events of interest to those connected with research in education occurred during the year—the setting up of the Commonwealth Advisory Committee on Research and Development in Education, the renewal of funds available for research to the Commonwealth Advisory Committee on Advanced Education, the establishment of the Vice-Chancellors' Committee on Research, and the formation of a professional body of those engaged in research into education in Australia to be called the Australian Association for Research in Education (AARE). The latter body will hold its first meeting on 13 November 1970.

The Commonwealth Advisory Committee on Research and Development in Education

The establishment of the Advisory Committee, with a fund of \$250,000 for the current financial year, has been warmly greeted as a major step forward in direct governmental support for research and development. The fund is a small one when set against the needs which many have expressed, and the programs of research which many would like to see put in train.

It will be incumbent on those of us who have spoken of the need for more research now to show that there are programs and projects requiring careful study, that important problems associated with these can be posed for the solution of which there is an appropriate methodology, and that there is enough 'reserve capacity' in those sufficiently qualified in research to supervise and direct whatever work is funded, *and much more*.

If the \$250,000 available for 1970-71 is the harbinger of larger sums in later years, one of the matters needing urgent attention is

the number of people adequately trained in research who will be available for work in particular fields. Higher degrees gained by thesis, or by a combination of thesis and course work, may equip the holder for effective work in a specialized field, but do not necessarily make him competent in other fields or in other kinds of research. It is clear that the interest of postgraduate students in particular fields of research, or of staff members who attract such students to work with them in their chosen fields, does not necessarily lead to an output of people trained to work on matters judged by those with immediate responsibility for providing educational facilities to be highest in priority in requiring research, although one would expect some degree of agreement if students and staff are in any way involved in the education so provided.

Participation as an active worker in programs or projects initiated by research centres of whatever nature, or commissioned by the Committee—in combination with study in advanced courses at appropriate universities—may for many of the workers needed be the most effective training course. At the same time it could ensure that there was a substantial body of research people equipped by both academic study and field practice to contribute quickly and effectively to the accumulation of knowledge and skills in areas of high priority.

The onus is now with the research community to present through its proposals proof of its alertness to major problems and its capacity to contribute to their solution.

Renewal of Funds Available for Research to the Commonwealth Advisory Committee on Advanced Education

The acceptance by the Commonwealth government of the CACAE's recommendation for a further grant to the CACAE for research into the problems of the colleges, and the provision of \$250,000 for this purpose in the 1970-72 triennium, are other gratifying signs of the growing acceptance of the need for investigation into current practices, and for inquiry into needs before decisions are made and policies are decided. It is clear from the nature of the studies undertaken in the 1967-69 period that many who might otherwise have had only a passing interest in the results of others' inquiries have been helped to contribute through their inquiries to a deeper understanding of both their own practices and those of others.

The presentation of applications for personal assistance has

sharpened the perception of gaps in knowledge and encouraged a more critical attitude to current practices. Many of the unsuccessful applicants will, I am sure, be encouraged by the effort they have made in preparing their application to undertake at least some of the work involved in their own time. It is to be hoped that in all the larger institutions special units, similar to those in operation already in some institutes, will be set up both to provide the necessary expertness in methodology which a number of those interested to undertake inquiries do not at present possess, and to undertake some of the more general studies relating to the institutions as a whole.

The Australian Vice-Chancellors' Committee

The Australian Vice-Chancellors' Committee has decided to support and encourage research and experiment dealing with aspects of education within universities.

It has appointed a steering committee to advise it on studies or projects deserving support, and to suggest ways by which the study of problems and the improvement of practices in university education could be stimulated. It has specified that its immediate interest is in undergraduate education and within that field in studies of such things as university teachers and teaching, evaluation of TV and other audiovisual aids, the appropriate size of groups for teaching and other activities, different forms of examinations and examination practices, and the work-load of students.

An attempt is being made to gather and disseminate information about work at present going on in these areas and others, and to encourage applications for both individual and co-ordinated research projects. The amount of money available to support such projects had not been made public.

The Australian Association for Research in Education

The Association for Research in Education has still to decide upon its criteria for membership and its activities, but its establishment shows to me that those engaged in research in education recognize at least some common interests and are prepared to consider collectively questions related to the activities of research workers and their preparation for those activities. Its formation will provide a mechanism through which collective practitioner views can be presented to those using research. Depending upon the way in which its activities develop, it could be an effective

initiator of new approaches, and a testing-ground both for the results of individual work and for the presentation of original ideas.

II: SOME MAJOR EVENTS IN THE ACER'S YEAR

In the considerable number of events that inevitably now fill an ACER year, there are some that I would like to single out for special mention. The order of discussion is not intended to be an order of priority.

Conference on the Curriculum in English for the Primary School

The ACER has been invited to convene a conference in 1971 of curriculum officers of the state education departments, to consider the curriculum in English for Australian primary schools. This will be in some respects an activity parallel to that of 1964 and 1965 in mathematics, and could make a very significant contribution to a major segment of the activities within the primary schools of Australia. Mr W. T. Renahan, our Chief Research Officer in charge of Educational Services, will have major responsibility for the liaison and organizational work involved, and will visit all states within the next few months.

Publication of 'Educational Planning in Australia'

Although there has been at least one very unfavourable review (L. F. Neal in the *Australian Book Review*), Professor Bassett's report on the seminar on educational planning held in Canberra in September 1968 under the direction of the late Dr T. L. Robertson is, I consider, one of the most important of the recent educational publications in Australia. It is certainly one of the most important of the ACER's recent books. Apart from its record of a very significant event in Australian education, there is a wealth of data, of incisive comment, and of suggestions for future action, which could make it a source book for years to come. It is a challenge to schools and faculties of education and to teachers' colleges, to make it the effective basis for searching studies on the nature and significance of plans for the future of Australian education, and the needs for research to provide much of the basic data for decision-making.

'The Secondary School at Sixes and Sevens'

Mr Fitzgerald's review of the developments in secondary education in the 1960s and his projection of views about trends and problems into the 1970s will also, I expect, be the subject of critical examination and argument about the significance of the data he uses and the interpretation of trends in that data. It directs attention to the massive achievement of the 1960s in accommodating unprecedented numbers, and in attempting to provide for the needs of a school population very different from that of earlier decades; to the stresses this placed on the ability of state governments to meet the costs of building and to recruit the necessary teachers; and to the flexibility of the procedures for effecting changes in curricula. The fact that the last year which we could use in some of the figures was 1967 also points to the need for much more rapid public access to official statistics, and for procedures to be worked out with our printers and others to enable us to update statistical material almost to the last minute before the final printing of books such as this one.

Continuation of Co-operation with New South Wales in Their Basic Skills Testing Program

From our point of view, most valuable discussions have continued with the New South Wales Department of Education about the next stage in the program of test development connected with the original Basic Skills Testing Program. The program is to continue, but in a more flexible way and with the addition of tests which we hope will be more valuable to the classroom teacher. It is significant that the title of the project will be 'Primary Evaluation Project'. Schools will have freedom to choose to use any tests, either new or old, in the battery. Instead of the old system of a 'per capita' payment to ACER by the department, the department will purchase test materials from ACER and distribute to schools.

Development of an Australian Scholastic Aptitude Test

As a further development in the program of experimental testing at the end of secondary school, the Commonwealth government commissioned ACER to prepare a three-hour Australian Scholastic Aptitude Test. It has arranged for several states to test this year all the students in final year of secondary school, and for several others to test a sample only. ACER has obtained permission from

British, Canadian and USA sources to use their versions of the Scholastic Aptitude Test in any experiments likely to be undertaken, in which the use of one of the overseas tests seems to be appropriate.

Science Project—Change of Name and Separation of Administration

In the early days of the expanded Junior Secondary Science Project the day-to-day management devolved fairly heavily on ACER and there was considerable consultation between senior staff of ACER and JSSP staff.

During the year, to avoid confusion with the earlier Junior Secondary Science Project, the name of the new project was altered to the Australian Science Education Project (ASEP). More recently, following discussions with the committee of management, I proposed that ACER pass over the management entirely to the project staff. The number and quality of senior staff appointed to the project is such that it is unnecessary for ACER staff to have any direct part in the management except perhaps in the formal handling of accounts. In addition, it is unsound that the ACER should, in the day-to-day management of the project, be responsible to a committee of management other than its own Council: in effect as Director of ACER I had two masters in this project—the Council of ACER and the project's committee of management.

With the transfer of the project on 24 August to its own headquarters in the former teachers college 'Glenbervie', the project for all practical purposes became self-managing in all save accounting, which ACER staff handle for a fee paid by the project.

Colleges of Advanced Education—Learning and Teaching

The three-year study of learning and teaching in Colleges of Advanced Education, begun in August 1967, came almost to a conclusion with the presentation of the report on it to the Commonwealth Advisory Committee in October. Some organization of the data gathered and of other project documents was necessary after that, and a briefer report will be compiled, dealing with the outstanding features, for publication as one number of the *Quarterly Review*.

Completion of Stage 1 of Development of Educational Materials related to Study Skills

The first kit of materials prepared to help develop certain skills believed to be related to effective study habits has been completed by Mrs Jan Smith to the point where it is ready for at least preliminary publication and extensive trial. It deals with graph skills only, and uses a pupil-directed approach to interpretation rather than the teacher-directed approach to graph construction of the Nuffield materials. The organization of the materials rests heavily on Gagne's concept that the hierarchy of skills lying at the base of any performance can be ascertained, and the final performance improved by ensuring mastery of the intermediate skills included.

There is no similar material in use at present, and the opportunity exists, I think, for a thorough experimental study of their use.

Publication of IMP Kit C

Mr Izard and his colleagues, largely in their own time, have almost completed the kit of materials, in the Individual Mathematics Program, designed for the upper levels of primary school. Two of the three parts of the kit are at present available (C1 and C2), and an advisory bulletin to assist teachers in supplementing work contained in C1 and C2 until C3 is available has been published.

IMP is a unique Australian contribution to teaching mathematics, and it is disappointing that it has not had more recognition outside Australia as a contribution to the individualizing of instruction. Both Kit B and Kit C have, however, been purchased in quantity for use in one school district in Kansas.

Completion of Testing Stage of IEA Science Project

Full details of the work done in this project are given immediately below. It has been a notable achievement in a co-operative enterprise with hundreds of schools, and thousands of teachers and pupils, the work in schools being undertaken almost without exception cheerfully and with interest.

Request to Commonwealth and State Governments for Increased Grants

The Directors-General of Education accepted a request that the President and I might present them at their meeting in July a case

for increased grants—at least to cover continuing increases in costs for the same activities, but preferably to cover the costs of a much bigger basic establishment and therefore a more substantial planned program.

The Directors-General agreed to present to their Ministers a case for an increase in the grant to meet increased costs, subject to a similar increase in the Commonwealth grant, and have proposed joint discussions with ACER on the question of a proposed establishment.

I have been interested to find, in a paper recently considered by the Educational Research Policy Group of OECD, the following comments by Dr Kjell Eide, the Director-General of Planning of the Royal Ministry of Church and Education in Oslo, on the financing of research institutions:

A basic budget should provide the necessary nucleus of personnel and the institutional infrastructure. It should also allow the institution to build up competence for its particular tasks as it sees best. Furthermore, an operational program should be financed through this basic budget; its size determined according to a general judgment of the institution's functions and performance, but not on the grounds of the particular project proposals.

On top of this, contract financing should permit the full utilization of the institutional nucleus, each contract being concluded after negotiations between bodies responsible for financing and the institution itself. The initiative would frequently be taken by the research institution which, on the other hand, should have the freedom to refuse contracts offered.

These are by no means all the principal activities, but matters which to me appear to mark out the year more than other events, however important. I turn now therefore to a brief report on the multiplicity of activities begun, ended and continued by the staff in their various sections.

RESEARCH

IEA Project—Science (M. Rosier, W. Williams)

This is a study funded from general income which includes our grants from governments and other uncommitted funds.

Most of the activities of the project have been concerned with the administration of the main testing program. The final versions

of the tests and questionnaires were available in November 1969 after the meeting in Stockholm of National Technical Officers of IEA. Mr Rosier attended this meeting at which many aspects of the project administration were discussed.

Two main populations are involved: Population II (fourteen-year-olds tested during 21-25 September, and Population IV (final-year secondary students) tested during 27-31 July. Students in the Population IV sample who are studying science in 1970 take a specialist science test in addition to the general tests taken by all Population IV.

For each population independently a two-stage sample was drawn. This involved: 1. selection of sample schools, and an invitation to them to participate, and 2. selection of sample students within schools.

Meetings were arranged in all capital cities in June-July 1970 at which Mr Rosier discussed the project with teachers responsible for the administration of the project in their schools. He also maintained contact with education departments, Catholic offices of education, and teachers unions.

Altogether about 5,500 students from 225 schools across Australia are included in the Population II sample, and about 5,000 students from 200 schools are in the Population IV sample. There are also about 4,000 science teachers in the sample. Government, Catholic, and independent schools are all included.

A considerable amount of data about science achievement at the lower and upper secondary school levels is being gathered in Australia (and in nineteen other countries) in this project. In addition there will be data on factors relevant to achievement—school, teacher, student and parent factors. The basic descriptive statistics and correlations will be available to us during 1971, and data from the more sophisticated analyses will be available after this.

From the basic descriptive data we will obtain a statistical picture of science teaching and relevant factors across the whole Australian education system, since the sample includes government, Catholic and independent schools in all six Australian states.

The more sophisticated analyses will show patterns of relationships between achievement and other factors. When comparisons are made with other countries, it is the patterns that will be of interest, not the absolute level of performance, which is a product of different policies relating to age, time spent, curriculum, etc., rather than of quality of teaching and learning.

These patterns will show, in the limited subject area covered, the effect on student performance, attitude and interest of various differences in the systems. It will then be possible to identify the factors in the system which are relatively more important than others. Some of these factors will be malleable (e.g. school size). Some factors will not be malleable (e.g. length of parents' full-time education). One consequence of the results for an education system would be that priorities for the allocation of funds could be determined by the relative importance of the malleable factors as identified.

One item of particular importance is the sampling methodology devised for the project by Mr G. F. Peaker, a consultant to IEA and a former HMI in the United Kingdom. The sampling method used is able to produce a very efficient sample. That is, the sample has a high known level of accuracy in the sample results and is achieved with a relatively small number of students. There is a consequent saving of costs for printing and distribution of test materials. There is also a saving in the time of students and teachers. Because there is a smaller volume of data, survey results can be obtained more quickly.

It will be of particular help to us in our plans for standardization of tests, and the Queensland Education Department has used the method to prepare a sample for one of its own surveys.

Factors Affecting Performance on Piaget Conservation Tests (Marion M. de Lemos, I. M. Kilkenny)

This also is funded from general income.

Results from what we regard as basic research on the ways of using Piaget conservation tests will make an important contribution to the goal of developing reliable tests for assessing different levels of conceptual development in young children. Work on this was resumed in February last, following Dr de Lemos' return and the appointment of Mrs I. M. Kilkenny as a part-time assistant to help in the study.

Phase 1 of the study is reported on below. Phase 2, which will be an investigation of the effects of order of presentation and form of questioning on the tests of conservation of quantity, weight, and volume, will begin in September.

Phase 1 was an investigation of the effects of the specific form of questioning using the block test of conservation of number, space and size. The two forms of questioning investigated were

the standard neutral form (i.e. Are they the same? Or do you think one has more?) and a negative suggestive form (i.e. Which one has more?)

Our hypothesis was that there would be a significant difference between the number of children conserving on the neutral and negative forms of questioning in the younger age group, but that this difference would tend to decrease with age. A total of 120 children were tested, 40 children from each of the age groups 6 years, 8 years, and 10 years. Half the children at each age level were questioned on the neutral form and half were questioned on the negative suggestive form.

The results of the study supported our hypothesis. Significantly more conservation responses were found on the neutral form of questioning than on the negative suggestive form, these differences being most marked at the 6-year-old level, but decreasing at the 8 and 10-year-old levels.

These results are interpreted as indicating different levels in the understanding of conservation. Following Piaget's theory, we would expect that a child who had achieved a fully operational level of thinking would clearly recognize the logical necessity of conservation, and would therefore be able to resist the negative suggestion. However, a child who was only at a transitional level of development, or who was still at an initial stage of operational thinking which was not yet fully stabilized, might not be able to resist this negative suggestion, even though he may show conservation under more favourable conditions or when the questioning is entirely neutral.

If the specific form of questioning affects results in tests of this kind, it is obviously important in reporting on results for comparative purposes that the form of questioning be kept constant, and that results be interpreted in the light of the form of question asked.

Social and Political Influences in Relation to Change and Reform in Education (R. Fitzgerald, P. Segal, M. Jennings)

This study also is funded from general income.

It seems clear that the political and social framework in which education systems operate has a climate at a particular time which determines to a considerable degree whether successful innovation or major reform will take place, whether this is initiated by professional or lay opinion. It is not clear how the climate itself is

generated nor how it relates to the various known forces or instruments of change.

This particular study is taking two periods—the years 1945-50, and 1965-70—for intensive analyses. In each of them there was heightened public interest in education, unusual pressures for reform, and widely held expectations that major changes were imminent. The second period saw some different outcomes from the first, but in neither were the expectations in any way satisfied.

In examining the first period, Mr Fitzgerald is consulting records of political parties as well as of state education departments, and interviewing a number of the Commonwealth politicians and public servants involved in Commonwealth intervention in that period. For the second period, he is relying on the more public documentation that a changing public attitude to education has made available.

Of particular interest will be the reasons why the pressures for reform in the 1945-50 period proved too great for the resources available, and whether those reasons are still operating in similar strength.

Updating Statistical and Other Data Relating to the Secondary School in Australia (R. Fitzgerald, P. Segal)

Mrs Segal has maintained on file as up-to-date statistics dealing with pupils, teachers and costs relating to secondary education as the published figures allow. There is in my view a quite unnecessary delay in the publication of Australian statistics, which are often processed quickly in the states, but which sometimes do not become accessible in published form on an Australia-wide basis until two years later.

Performance of CSSE Scholarship Winners (W. T. Renehan, R. E. Wilkes, B. Hay, E. Watson, J. Simpson)

There are a number of studies included under this title. Most of the cost is met by a special grant for CSSE research made by the Commonwealth government. Some of this grant is used to study each year some of the technical characteristics of the tests used, including their intercorrelations in the various states. ACER general income also meets part of the cost.

As part of the analysis of the 1969 results and in addition to the regular item analysis and summary statistics, a set of inter-marker correlations was taken out, comparing each essay marker with others marking common batches of essays. This has been of

considerable help to the Chief Examiner (Miss Maling) in selection of markers for the 1970 examination.

Follow-up of 1964 One-year Scholarship Winners, Victoria

A final report on the follow-up study of both the 4,221 Victorian candidates with scores of 158 and above and the representative sample of 778 candidates will be presented to the Department of Education and Science later this year. Final results indicate that, for those who entered a university, there was a significant relationship between success at university at the end of 1969 and the 1964 (Grade 11) CSSE score. However, it should be noted that even for the lowest of three CSSE score grades (78 to 141 on best three papers), 54 per cent of the representative sample had achieved passes at third-year university level. There was, however, a very high correlation between CSSE score and entering (or not entering) upon a university course.

Follow-up of 1966 Two-year Scholarship Winners, New South Wales, South Australia, Victoria

In this study we have followed the academic performance and post-secondary destination of candidates for the 1966 Commonwealth Secondary Scholarships Examination. The sample involved approximately 900 students from each of the three states—New South Wales, South Australia, and Victoria.

We have examined the relationship between students' scores on CSSE and their results at the Matriculation or Higher School Certificate Examination, including success in winning Commonwealth University Scholarships.

As the intention of the Commonwealth Secondary Scholarship scheme was to assist students who were capable of tertiary education to remain at school, we followed the students' scholastic activities after leaving secondary school.

The study should indicate whether secondary scholarship winners continue to tertiary studies and whether they have greater success with Commonwealth University Scholarships than those whose CSSE score fell below the winners' cut-off mark.

In a study involving a large number of students in three states there is a time lag between the decision to conduct a questionnaire survey and the final checking of data, particularly concerning non-respondents. As far as possible we used information from students. However, the state education departments and the branch offices of the Commonwealth Department of Education and Science

gave us valuable assistance with information not available elsewhere.

The results of the study show a positive relationship between success at CSSE and entrance to tertiary, particularly university, education.

The report on the findings is now being prepared, and should be available before the end of the year.

Follow-up of 1968 Two-year Scholarship Winners and of Non-scholarship Winners in Brisbane, Melbourne and Sydney

The collection and analysis of data in relation to this study was completed during the year and the final report is near completion.

The general aim of the study is to ascertain the effects of winning the CSS on family plans for the scholastic and occupational future of the winners.

The study involved interviews, in Sydney, Melbourne and Brisbane, with sample groups of one hundred CSS winners and their parents. In each of these cities information was also obtained, by means of a questionnaire, from a sample of one hundred non-winners.

The results of the study indicate that, in the state capital cities involved, the CSS award is generally regarded by the winners and their parents as a satisfying and confidence-boosting achievement. However, in these cities, the award had relatively little effect on career plans, plans for future education, and the decision to complete secondary education.

Distribution of Awards

From ACER records of CSSE results, and from data supplied by five state education departments, tables showing the distribution of CSS awards have been prepared. For each year since 1967, the tables show details of the division of awards between types of school system and between boys and girls within each school system. For each state, information on the comparative performance of state capital city candidates and other candidates within the state has been extracted. The report on this work will be prepared as soon as the relevant information is obtained from the sixth state.

Use of Results to Assist with Guidance

A small experiment has been undertaken in which selected schools in South Australia and Victoria were given on a confidential

basis their pupils' results on CSSE and asked to advise us on the use to which they were able to put these in advising their pupils on selection of subjects and courses. An earlier study in Victoria in 1968-69 showed marked differences between schools in the use made of such results, but pointed out that, if it was to be of any use, the information must be available well before the end of the school year.

The results of the 1969-70 study wait upon reports from the schools.

Studies on the Writing Ability of Secondary School Students
(J. Maling, B. Rechter, M. L. Turner)

Time has not permitted further work on the validity of the written expression paper of the CSSE, although preliminary analyses undertaken in 1969 were encouraging. The samples of writing collected in the first part of last year, and in the scholarship examination itself, are I think a unique sample of the writing ability of a carefully selected group, and the analyses when reported should be a contribution to the literature on writing ability.

The procedures used by ACER in marking the CSSE written expression paper have attracted a good deal of attention in some quarters overseas, but we have not yet had time available to report adequately on them or to analyse fully the data we have about them.

English Expression as a Subject for Matriculation Examination in Victoria (B. Rechter, J. Maling, M. Batten)

Part of the direct cost to ACER of this project is met by a small grant from the Victorian Universities and Schools Examinations Board, which is covering also a considerable amount of the clerical work involved.

The project has two main aims:

- (a) to appraise the validity of an English expression examination as a compulsory hurdle for admission to tertiary studies, and the validity of the present examination in Victoria as a compulsory hurdle for admission to tertiary studies; and
- (b) to investigate the procedures required for the construction of the examination and the marking of the scripts in order to produce a reliable and consistent set of marks.

Information relevant to the first aim was sought from two main sources—questionnaires and follow-up of students admitted into various tertiary institutions with either a compensatory pass, or 'fail' in English expression. Students included in the follow-up study matriculated in 1966, 1967, and 1968 and entered a teachers college, a college of advanced education, or a university. Questionnaires were sent to a sample of those teaching in tertiary institutions and representative of a range of faculties within these institutions; two groups of teachers in secondary schools (those teaching English expression and those teaching other subjects at the sixth form level); and to full-time students studying English expression in secondary schools. In addition, the relationship between performance in English expression and other Higher School Certificate subjects (*viz.*, literature, history, and chemistry) was examined.

Information relevant to the second aim was sought through a measure of parallel-form reliability, based on a comparison of the performance of a sample of students on the 'October Test' English expression paper (a special examination taken in many schools by way of preparation) and the final examination in November; an evaluation of the consistency of marks awarded to students under the present marking procedures; a comparison of teachers estimates of student performance with the results gained by the students in the final examination; and an analysis of the various sections of the paper to determine the extent to which the actual contribution of each sectional score to the total score corresponded to the expected contribution.

From one point of view the project has extended the work started in our general survey of matriculation examinations throughout Australia. It has enabled comparisons to be made of the performance and attitudes of students and teachers of the sciences and humanities; it has suggested ways of improving examining procedures and of reconstructing the curriculum in English at the sixth form level; and it has indicated the kinds of deficiencies in the skills—often called communication skills—that students experience and teachers perceive at both secondary or tertiary institutions.

A public report on the study will be made in the near future. We will be able to co-ordinate its results with data available from other Australian studies.

Drop-outs from Education amongst Aboriginal Children in Victorian Schools (D. W. Bruce, M. Hengeveld)

This study was financed by the Ministry of Aboriginal Affairs in Victoria. During the latter part of 1969 and the early part of 1970 attention was concentrated on the relative performance on the ITPA, and on Piagetian conservation tests, of aboriginal children in Victorian primary schools, matched with Australian-born non-aboriginal English-speaking children of the same sex, of the same age, and in the same grade, and with migrant children with the same characteristics except that they came from homes where English was not spoken. Later, the children were also tested with the Assessment of Children's Language Comprehension Test and the Boehm Test of Basic Concepts.

In general the migrant children occupied an intermediate position between non-aboriginal and aboriginal Australians; the performance of the aboriginal children was on the average lowest of all except on some of the subtests of the ITPA. School achievement was not measured. The results have been interpreted to mean that, because this achievement occurs in a number of skills assumed to be closely related to performance in mathematics and reading, aboriginal children will on the average find schooling a good deal more difficult and demanding than their fellow Australians. They will be handicapped in school subjects to the extent that these skills are positively correlated with performance in school subjects. Further work is to be done in 1970-71 with children from secondary schools.

Telecommunications in Education (G. Gosling, M. Rosier)

The funds for this study are being provided by the Australian Post Office. It is an attempt to discover to what extent educators over the next two decades may make use of the telecommunications facilities controlled by the Post Office. It is too early to make any predictions as yet. Contact has been made with overseas centres, including several in Canada and USA, engaged in something of the same nature. Late this year and early next it will be necessary to visit all states and all the principal institutions likely to be involved, seeking answers to a number of specific questions relating to the facilities and possible uses of them.

Within the scope of the study is included not merely the application of telecommunications to the educative process, but their

utilization as aids in educational administration. It is intended that the study should provide to the APO:

1. the views of educationists on the extent, timing and location of likely demands for telecommunications facilities which could be provided by the APO;
2. suggestions which will rationalize the requirements of the various education departments, institutions, etc., and make possible the most economical provision of the necessary facilities.

Some of the aspects which are being covered are:

- (a) data communications—communications to and from computers and between computers. These would include
 - (i) teaching of computer science,
 - (ii) computer-assisted instruction,
 - (iii) computers for administration;
- (b) telelecture facilities—the joint use of audio- and handwriting-reproducing machine transmission for lecturing to remote classrooms;
- (c) picture transmission—television on closed circuit and wired area basis on slow, medium or high speed scan techniques;
- (d) the extent to which education authorities can share communications facilities to obtain optimum utility.

It was apparent quite early that the study could not be restricted to the applications of telecommunications to education: any recommendations to the Post Office required that competing alternatives be examined. In a particular context, a decision whether use can or should be made of telecommunications facilities must take into account the relative efficiency and cost of such alternatives. To take a concrete example, the use of closed circuit television in education must compete with films, film cassettes and alternatives arising out of the development of electronic video recording. Furthermore, the same piece of equipment may be used with or without a telecommunications system in different circumstances, e.g. as a piece of independent equipment or as part of an integrated computer-controlled teaching system.

Mr Gosling and Mr Rosier have discussed the project with members of staff of most of the education departments (with the approval of appropriate Directors-General), with university staff in some states, and with members of staff of other educational institutions. The manufacturers' association (the Australian Telecommunications Development Association) has also proved most

co-operative, and a number of member firms have been visited to discuss equipment and its use. Similar discussions have taken place with manufacturers of electronics equipment and computers.

Survey of Pre-School Experience (M. de Lemos)

The costs of this study come from general finances. Its purpose is to find the nature and extent of pre-school experience of children randomly selected in a random sample of Melbourne metropolitan primary schools of all kinds, and to identify some of the main characteristics of children who have attended pre-schools as compared to those without this experience. No similar data exists in the Australian scene as yet, although many opinions have been expressed about such matters as socio-economic background. We hope to be able to relate the information to studies of performance, attitude, and development during the years of primary schooling.

School Achievement of Migrant Children (M. de Lemos)

Discussions have been held with the Commonwealth Department of Immigration about a project to ascertain the relative achievements in primary schools of migrant children. The department has expressed interest in a study of Victorian children, and has agreed to support it financially. In addition, we have been investigating the possibility of using the results of the 1969 NSW Basic Skills Testing Program to obtain similar information about the achievement of migrant children in NSW government schools. The representative nature as far as migrant children are concerned, of the schools from which we have results, is at present being examined. The costs of any work done on this data will be met from general income.

Learning and Teaching in Colleges of Advanced Education (B. Wise, B. Horne)

This study, funded by the Commonwealth Advisory Committee on Advanced Education, is now drawing to a conclusion. The data collected by the various procedures outlined in my annual report for 1968-69 have now been analysed and an advanced stage has been reached with the writing of the report of the study to be furnished to the Commonwealth Advisory Committee on Advanced Education. Copies of the report will be made available to the committee, to the colleges who participated in the study, to departments of education and similar bodies associated with these colleges,

to libraries and to all others who normally receive complimentary copies of ACER publications. In addition, it is expected that a limited number of copies will be available for purchase.

The report will consist of three volumes. Volumes I and II are the main sections of the report, as they refer to the Australia-wide situation in advanced education. The data in them have generally been analysed and reported on in terms of the state as a whole, rather than on an individual college basis within the state. Information in this form is not of particular value to the individual college. To overcome this disadvantage in Victoria, where there are twelve colleges, and where most of the pilot work was done, volume III contains statistical information about Victorian students on a separate college basis. It will not be on general distribution.

Volumes I and II will contain the public report, and will include all relevant tables and other material, on such matters as:

- characteristics of both full-time and part-time students;
- characteristics of staff (both full-time and part-time);
- details of courses and objectives;
- the teaching situation;
- evaluation of student performance;
- classroom conditions and library facilities;
- conclusions and recommendations.

It is expected that the report will be available in multiple-copy form before the end of the year. Because of its size (over seven hundred pages in the three volumes), and also in order to allow wider dissemination of the more important findings, it is proposed to include part of the material in a *Quarterly Review* which will be available early in 1971.

Part of the information collected on the Victorian full-time engineering students forms the basis for a more detailed analysis of student characteristics and their relationship to performance, carried out by Mr Horne in his own time as part of the requirement for the M.Ed. of the University of Melbourne.

In a study of this size it is not easy to state succinctly what might be regarded as the major findings. However, the following would certainly be given prominence amongst the many findings that will come out of this study:

1. There was a general lack of stated objectives, both for the colleges and the courses they conduct. Criteria for assessing performance may be difficult to establish in the absence of accepted objectives.

2. Facilities such as libraries and classrooms, etc., were, in many instances, well below the standard expected for tertiary institutions. Although many are being improved, there will be substandard accommodation for some years in some institutions.
3. Teaching loads actually required of staff were far higher than are regarded as normal in universities and many teachers colleges.
4. Student weekly class-contact hours were too high to allow use of libraries and other facilities (where these existed) for self-directed learning.
5. Learning procedures tended to be lecture-centred rather than student-directed.
6. The part-time student was found to be at a disadvantage in such aspects of the learning situation as use of libraries, contact with staff, and tutorial experience.

In all, the study deals with replies to questionnaires from more than 4,600 students, of whom about 5 per cent were also interviewed. About 2,000 of the students were full-time. Almost 800 staff members also replied to questionnaires and nearly 400 of them were interviewed. All told, 22 colleges were visited, and data from them included in the survey.

Computers in Education (M. Rosier)

Less time was available for work in this area during the past year due to the time required for the IEA Science Project.

The main area of investigation with which Mr Rosier has made himself familiar has been in Computer Managed Instruction (CMI). This refers to computer management systems to support schools attempting large-scale individualized instruction schemes. The computer is called in to keep track of student progress so that the teacher is freed to undertake a diagnostic (advisory) role. The students do most of their learning from a variety of self-instructional materials.

On his way in November 1969 to the meetings of national technical officers of the IEA Project in Stockholm, Mr Rosier visited several projects in USA which were developing CMI systems. In particular he saw project PLAN (Programed Learning According to Needs) at Palo Alto and IPI (Individually Prescribed Instruction) at Pittsburgh, which have done a considerable amount of work in this area.

A useful flow of information about CMI and other computer applications in education is now coming to ACER.

Compilation of Data on Studies in Written and Oral Expression at Upper Secondary and Tertiary Level (G. Gosling)

The project is concerned with obtaining information on real or alleged deficiencies in communication skills (written expression, oral expression, listening, etc.) among students in Australia at and beyond the point of entry to courses of tertiary study and the relationship between such deficiencies and tertiary performance.

As a first step a critical summary was prepared of the published Australian literature in the area. Tertiary institutions (including universities, colleges of advanced education, teachers colleges, and technical colleges) were approached with a view to supplementing the scanty published material, and requested to send available data concerning the nature and quality of the written and oral expression and the listening skills of students, together with information about the nature and effect of any remedial programs designed to remedy real or assumed deficiencies.

Although the vast majority of the institutions concerned were unable to assist in this way, a number were able to send related material, which is currently being evaluated. In general, the greatest deficiency in both published and unpublished reports is the failure to investigate the relationship between 'improvements' in communication skills where remedial programs have been instigated, and the subsequent tertiary performance of the students concerned. Consideration is also being given to a study in depth at a single institution or a restricted number of institutions.

TEST DEVELOPMENT

Mr B. Rechter is in charge of the main body of work in test development, which is concerned with school achievement. Mr D. Bruce deals with tests of a more psychological nature.

Commonwealth Secondary Scholarships Examination (B. Rechter, J. Maling, N. Wilson, D. Arney, A. Read, A. Grant)

Another set of CSSE papers was prepared for the 1970 examinations held in late July. Processing of all the papers for all states except NSW, and marking essays for that state, is a task now regularly associated with that of preparing the test papers.

The tests are paid for by the Commonwealth government, which also meets the costs involved in our processing of the results. This year we have asked for a substantially larger amount for the preparation costs, both to cover actual costs including recent in-

creases in salary levels, and to include a definite percentage above actual outgoings. The request has not yet been finally answered.

Tertiary Education Entrance Project (B. Rechter, J. Maling, A. Read, D. Arney, D. Palmer)

A composite Series C battery was prepared this year from the two Series—A and B—prepared in 1968 and 1969, and has been printed for the Commonwealth for use at least in Queensland this year. The Series C battery includes the following papers:

- Paper 1 Quantitative
- 2 Science
- 3 Written Expression (2 parts)
- 4 Social Sciences
- 5 Humanities—Comprehension of Verbal Material
- 6 Humanities—Comprehension of Verbal and Pictorial Material

The small cost to ACER of preparing and editing the series was met by the Commonwealth.

Australian Scholastic Aptitude Test (ASAT)

As already mentioned, we were commissioned by the Commonwealth government, as the next stage of TEEP, to prepare a three-hour multiple-choice scholastic aptitude test for experimental use. Believing that there was little point in preparing something parallel to overseas tests of this kind, we have developed a test in which the stimulus material used in the questions is drawn from the same general areas as are the TEEP Series A, B and C questions. More questions need to be answered about the materials selected than in any of the TEEP papers so far made available. In the three-hour paper there are 110 questions in 19 units.

Apart from meeting the construction costs, the Commonwealth is meeting all the costs of printing and distribution of the tests to the five states which will be using them later this year.

ACER has been asked to arrange the processing of the results, as it does for CSSE, but is not directly involved in any follow-up or research work.

I think this is in some ways unfortunate. There is a real need for those constructing tests to be involved in research work in which they are used. To have to sit back and wait upon others to collect data is often frustrating both because of delays and because the interests of others are not always the interests of ACER. We

are, for example, much more interested in the TEEP tests as potential guidance than as selection instruments; this interest is not general outside ACER.

We feel a growing need to spend more time in following up our tests with research into such questions as their effect on schooling, on curriculum, and on assessment in the schools. We want to find out more about factors influencing performance on tests (why, for example, do girls do less well in CSSE and TEEP?), more about the common and dissimilar features of tests ostensibly different, more about what is taking place in schools in teaching and in assessment that can or should be influenced by the potent force of a competitive examination of the CSSE or TEEP kind.

Primary School Mathematics Tests (J. Izard, D. Palmer, D. Goodger)

Preparation of a comprehensive range of mathematics tests for use in the middle and upper grades of primary schools is well on the way to completion. These are designed both for general use throughout Australian schools, and for specific use by New South Wales in connection with the Basic Skills Testing Program. Tests related to topics in the curricula used in the several states, appropriate to the levels at which the topics are introduced and developed, have occupied most of the preparation time so far spent, since such tests are believed to be of great value to the classroom teachers. Survey tests which will include questions of the kind used in the topic tests are also now being developed. They will serve the principal purposes of the standardized tests at present in use. The cost of preparation is being met partly from general income and partly from funds available from the special funding of the Basic Skills Program.

The fourteen topics are counting and number problems, place value, sets, whole numbers, fractions, decimals, spatial relations (shapes), length, area, weight, capacity and volume, time, graphs, and temperature. Facets covered are terminology, understanding of ideas, computational skills, and verbal problems. The normative data that will be made available for the topic tests will be related to mastery of specific content rather than to the distribution of scores on whole tests. This will be a departure from previous practices in primary school testing in Australia, although similar ideas underlie the tests prepared in physics, chemistry and biology for the upper secondary school.

We expect to release all tests for use in schools in 1971. A

number of them are already in final form, and teachers' manuals, regarded as being essential to explain the mastery of content approach, should be completed before the end of the year.

Primary School Reading Tests (M. L. Clark, J. Maling, W. T. Renehan)

One form of a range of reading and word knowledge tests designed for use in primary schools from the third to the seventh year is now ready for standardization, and parallel forms are available for a number of the tests.

Separate tests are available for each of the grade levels stated. The battery includes also a test of dictionary skills at Grade 6 level, and will include a single test ranging across all primary grades.

A good deal of the work on these tests was done under Dr Clark's direction by Mr R. Warry when seconded on full salary to ACER in 1968 from the Queensland Department of Education. Dr Clark has continued the work with help from Mr Renehan and Miss Maling, and costs have been borne by general income.

Primary School Social Studies Tests (W. Renehan, R. McLeod)

In November of 1969 a test of comprehension in the social studies was used as part of a testing program for Victorian primary schools. This test will be used again in 1970, along with a new test of the understanding of words used in social studies in Grades 3 to 6. Although prepared in close consultation with officers of the Victorian Curriculum and Research Branch, it should have a wide applicability throughout all states.

Junior Secondary School Mathematics Tests (D. Arney)

Using general income to meet the costs, we have been developing tests in reasoning in mathematics at secondary school, in each of the grade levels 7 to 10 inclusive, using questions of the same type as those in the Commonwealth Secondary Scholarships Examination.

Preparation of the tests was begun by Mr N. Wilson several years ago, and was continued by Mr Arney after Mr Wilson took up his present appointment in South Australia.

Junior Secondary School English Tests (J. Maling)

The original tests prepared for use in the lower forms of the secondary school have been modified and further developed so

that they are suitable for use in Grades 6, 7 and 8. Miss Maling has been working on these intermittently for several years as opportunity offered between CSSE and TEEP test contracts. Costs have been met from general income.

Senior Secondary Science Tests (A. Read, B. Rechter)

Funds from general income, supplemented by special grants from the Victorian Education Department for the preparation of the tests and their trial use in Victorian schools, have been used for some years to prepare special diagnostic tests (with remedial material) and survey tests, first in physics, then in chemistry, and now in biology. Other states have found considerable use for the tests in original or modified form. Biology tests have been developed over the last two years in collaborative work with teachers and others in Queensland, South Australia, Tasmania and Victoria, all of whom use *The Web of Life* course in biology in their senior secondary classes.

Mr Rechter and Miss Read have found the development of these tests more difficult than similar tests in physics and chemistry.

We expect the tests to be available for use in schools in 1971. They will cover Grades 11 and 12. There will be thirteen diagnostic tests, two survey tests, and remedial material to accompany the diagnostic tests.

Tests of Learning Ability (B. Rechter, G. Gosling)

As part of the program of gradual replacement of tests of ability not being found now as suitable as when first made available, a test of 'learning ability', as we preferred to call it rather than 'general ability' or 'intelligence', was prepared for trial use at Grade 4 level in New South Wales to replace ACER Junior B. Some change in the types of questions testing thinking with quantities and numbers was thought necessary because many of the question types in former intelligence tests are now part of specific learnings in some of the newer mathematics textbooks and courses. Different approaches were also thought desirable for testing verbal skills.

The New South Wales guidance staff have tried out a test prepared in this way and did not like some of the proposed material, or the mode of presentation and administration of the trial test material. The points of difference have been largely resolved by Dr Clark and Mr Rechter in discussion with them—but the experience has emphasized the importance of constant dialogue between test users and our test developers, to ensure that the needs

of the users are met while new and we hope improved questions and methods of presentation can be introduced.

We now expect to have a test at this level ready for general use, but not standardized, by the end of the year. Its availability in New South Wales will be limited, by arrangement, to the Guidance Service who will assist in its standardization there.

Plans are also being prepared for new tests of learning ability at Grade 6.

Tests for Selecting Systems Analysts from Programmers (D. W. Bruce)

A battery of tests based on a preliminary analysis of the skills thought to be essential to successful work as a systems analyst has been compiled by Mr Bruce, and is at present being used in trial form with a number of persons actually engaged in programming, to establish the relevance of its various parts to success both as programmers and as systems analysts.

The battery includes Test B40, the Morrisby compound series, the Morrisby tests of shapes and general ability (perceptual), and the California Personality Inventory.

At present about one hundred programmers have been tested, out of a total desired test performances of about three hundred. When this number of results is available, they will be analysed to determine what parts of the battery appear to give the best predictions.

The cost of preparation and trial is being met from general income, although a great deal of unpaid help is being given by officers in the firms co-operating in the trial. It is not an easy matter to obtain the availability of qualified staff from the firms employing programmers, to undertake the four-hour testing needed.

Tests for Commonwealth Public Service (D. W. Bruce)

High Level Test—Graduate Selection

A test for selection of graduates for employment in the Commonwealth Public Service has been in use by the CPS for some time. The material supplied to the Commonwealth Public Service Board for trial purposes consisted of two draft forms from which it is intended to select a final two-hour test. The board has indicated its wish to consult us about follow-up studies for validation purposes.

Technician Selection

The board has asked also for a test useful in selecting technicians-in-training for transfer to a more academic form of technical diploma-type of training. CSSE-type tests in mathematics and science have been selected for inclusion in the test provided.

Commonwealth Banking Corporation—Selection Test
(D. W. Bruce)

Alternative forms of a test of mathematical problem-solving, using arithmetical material, and of a test of English expression of a similar type to CSSE humanities materials, have been supplied to the Commonwealth Banking Corporation for use as a part of the selection test program used with school leavers on entry to the bank. The value of this as well as of other materials in the battery is being followed up with the corporation.

TEST MAINTENANCE AND ADAPTATION

Whereas we are completely replacing many of the achievement and learning ability tests which are generally used by teachers, and developing new tests to cover subjects and levels not previously dealt with, we are developing norms for a number of the existing psychological tests, and adapting overseas tests for Australian use.

The Wechsler Intelligence Scale for Children (D. W. Bruce, A. Lamb)

With help from members of the guidance services in five states, and with tests conducted in Victoria by our own staff, the WISC in its Australian edition has been given individually to 1,800 children randomly selected from all states and balanced between independent and state schools.

In 1971 we hope to test about the same number of children plus a small additional number to balance the sample, so that we will have norms on a sample of some 4,000 children, between the ages of 5 years 11 months and 15 years 2 months in four-monthly steps. Interim norms on the 1,800 are now being prepared.

A program of this sort would be impossible without the interested and competent help we are receiving, without cost, from the guidance staffs. Costs of testing within Victoria and of norming are met from ACER general income.

Normative Data on Guidance and Selection Tests (D. W. Bruce, D. M. Bradshaw)

Many of our guidance and selection tests are used with adults or adolescents who have left school. It is either impossible or very difficult to undertake normal normative testing on a random population. We have therefore been seeking out the results of testing undertaken on particular groups, to bring out norms for defined subsamples against which individuals or other groups can be assessed. We have been fortunate in this way to be offered the entire records, involving some thousands of individuals, of the testing done by a large firm of consultants. Occupation, age, and other data are available for these. Data has also been made available by one of the larger banks. We have also been able, through co-operation from the Department of Labour and National Service, to obtain test records of a similar kind on some 60,000 individuals. We must, of course, accept that none of such records, however large in number, can be asserted to be a random sample. Given the clear definition of how the norming population was gathered, those using the tests will have some guide to the relative standing of any individual whom they test. The records are being made available without charge, and the costs of drawing up norms will be met from general funds.

Reading Tests (D. W. Bruce as co-ordinator)

The Psychology Branch of the Education Department of South Australia is assisting us in the renorming of the ACER Individual Reading Test, and helping to establish norms in that state for two other tests—the Schonell R1, and the Burt Graded Vocabulary Test. Testing continued in 1970, and we propose to await these results before preparing norms. Some 2,000 children will be involved.

The existence of modern norms should greatly enhance the value of these tests, and the results from the testing will be useful basic data for research of various kinds.

Australian Edition, California Personality Inventory
(D. W. Bruce)

An Australian edition of the California Personality Inventory was prepared in consultation with its author, Dr Harrison Gough. Norms will be needed, and we expect to be able to obtain them in 1971 for at least some relevant subgroups. It is already being

used as a part of the battery of tests being tried out with computer programmers and systems analysts, and with some groups of nursing students.

MATERIALS DEVELOPMENT

Graph Skills (J. Smith)

We began the preparation of materials to develop 'study skills' some five years ago, with assistance from the Western Australian Department of Education in seconding first Mr Newby and then Mr Searle. Then, the problem looked relatively easy. Now, after about six man-years of work, we have a kit of materials ready for use which will occupy some 15 to 27 sessions of 35 to 45 minutes, if all the material is used, suitable for Grades 3 through 7 in Australian primary schools. Teachers and pupils have found the trial forms useful, and if introduced in the way intended the materials should ensure that children entering secondary school are reasonably competent in interpreting graphs of various kinds.

In its present form the kit includes the following materials intended to teach pupils at middle and upper primary school levels how to interpret bar, line and circle graphs:

- (a) fourteen basic units, each unit intended to teach a principle (e.g. that the longer segment stands for more of a quantity),
- (b) five application units,
- (c) three 'special units',
- (d) a placement test to be administered before the program begins,
- (e) progress tests—for use after each unit,
- (f) a student record book,
- (g) separate answer cards for the progress tests and application units.

It has been through many stages, and been subject to revision in many of its parts. It still needs, we believe, more extensive trial in more schools before it is marketed, but these trials should be in the form in which marketing is proposed.

No specific funds outside ACER have aided this project, but all education departments and a number of schools have supported and participated in the trials so far undertaken. The main part of recent work has been done by Mrs Jan Smith, with Mr D. M. Bennett acting as supervisor. Dr M. L. Turner gave valuable direction to the work until he left ACER, and has acted as consultant since then.

Individual Mathematics Program (J. Izard, M. Jagger)

There have been two main lines of activity during the year: (a) the revision and reorganization of Kit B, first produced in 1966, of which all 5,000 sets originally printed have been sold, and (b) the preparation of Kit C for the upper levels of primary schools.

A complete revision of Kit B—incorporating all the comments made since its first publication, and the experience gained in its use by teachers—has not been possible. Because all the first kits have been sold and there is a steady demand for it even without the improvements that Mr Izard, his colleagues and ACER staff think desirable, a second edition is being prepared for publication. It will incorporate some changes, the most significant being the elaboration of introductory units and the organization of the teacher's manual.

In its final form, Kit C is to be presented in three parts. Two of them have already been published and the main work during this year has been the preparation, development and production of the remaining segment. It is expected that all the necessary typesetting and art work will be completed by the end of this year and that the final part of the kit will be released early in 1971.

The costs of the work have been met both directly by Rigby Limited, the publishers, from the royalty fund set up within ACER to fund further developmental and research work on the program, and, in some minor respects, from ACER general income.

Social Sciences Materials (D. M. Bennett, B. Bullivant, J. Webber, J. Forsyth)

The continuation of the special grant from the Myer Foundation during 1970 has enabled us to continue work on materials relating to social sciences in the junior secondary school. Materials were prepared in 1969 dealing with urban housing and redevelopment in Australia and with social development in New Guinea, and first trial of these was undertaken in Victorian metropolitan schools. They require reading skills, including the ability to extract particular information, the skills of collating information from discrete sources of data, and the skills of synthesis and analysis of such information. It was expected that they would draw attention to the duties, responsibilities and rights of individual citizens and units of government in general as well as in the context of certain current problems, and to the role of judgments and values as well as of data in decision-making on such problems.

More recently, we have concentrated attention on the broad theme of 'The Changing Urban Scene', and hope to have a unit or units of work related to this theme ready for use in schools in 1971, after trial and evaluation late in 1970 or early in 1971. Source data are being collected from the disciplines of history, geography, economics, social psychology, and anthropology.

During Mr Bennett's absence on study leave, Mr R. Fitzgerald is giving general supervision to the project.

Western Australian Reading Development Scheme—WARDS

Another reprint of this scheme has become necessary. Some modifications and possible improvements had been suggested by some of the users during the period of the earlier editions, but neither staff time nor funds are available for any major work to be done.

Junior Secondary Science Project

The last of the eighteen boxed units prepared by the staff of the project and published by Cheshire's were made available to schools at the beginning of 1970. Nine units were designed for use in the first Victorian secondary year (Grade 7) and nine units for use in the second year (Grade 8). Experience in their use in printed form showed that most schools used fewer than nine in a year, and that some units could be used in the third year (Grade 9).

With the announcement of the formation of the expanded project which has become the Australian Science Education Project (ASEP), teachers are reluctant to commit themselves to purchase of the JSSP units until they are more familiar with ASEP's policy about material, the nature of the materials that will be produced, and the time when they will become available.

As it appears unlikely that ASEP materials on the present program will reach publication before about 1973, there is a place for the effective use of JSSP materials before ASEP materials become available. ASEP is being asked by the JSSP Project Committee to make its position clear, and to advise what units or parts of JSSP materials it would wish to use or to recommend.

The Malvern Project (B. Hawkins, M. Rosier)

The last half of 1969 saw a continuation of various specialist panel meetings to finalize the planning of equipment requirements,

and to further clarify and refine the program and research studies related to it.

The general plan calls for the greater part of the 1970 school year being spent in equipment installation, establishment of firm production procedures, and familiarization activities in the selected project schools. By the 1971 school year it is anticipated that the schools will be sufficiently accustomed to working with CCTV to enable the research studies program to begin.

The mobile production unit was operative by May 1970, and at the end of the second school term forty-four programs had been made, including ten programs recorded 'off-air' from broadcast television at the request of teachers.

The general interest in the project being shown by the various educational authorities throughout Australia is reflected in the secondment to the project of a teacher assistant from the South Australian Education Department (Mr I. Mortlock), and a TV technician on secondment from the Victorian Education Department (Mr G. A. Allen).

Mr Rosier took Dr Turner's place on the committee of management, and acted as its chairman.

One development of interest within the project is the inclusion of a new school, St James' East Bentleigh. At this school the project will be concentrating on providing learning material for use by individual students in Form I geography. It will be available in 1971 and will be part of the resources of a multi-media centre.

One number of the *Quarterly Review* 'Television in the Australian Classroom', and Occasional Paper No. 3 'Closed Circuit Television in Teachers Colleges' have arisen from the project.

Funds for the project have come from many sources. During the years grants totalling \$6,050 came from the Sunshine Foundation, the Ian Potter Foundation, Mt Isa Mines Limited, the Herald and Weekly Times Ltd, General-Motors Holden Pty Ltd, and Repco. Further funds are needed to enable the work so far done, and particularly the programs prepared, to be adequately evaluated.

SERVICES

TESTING PROGRAMS (W. Renehan, R. Wilkes, N. McBean, E. Watson, J. Prior, J. Simpson)

New South Wales Primary Evaluation Program

Following the publication of a statement of guiding aims and principles for the curriculum for primary schools by the NSW

Department of Education in 1960, that department and ACER set up the NSW Basic Skills Testing Project to evaluate achievement in Grades 3-6 over the period 1962-1969. Tests were produced in spelling, reading, mathematics, study skills, and listening comprehension. In all, over 1,800 NSW government schools and a number of independent schools in NSW, together with schools in the Territory of Papua and New Guinea, used the tests during the operation of the project.

From time to time during that period results from random samples were examined to gauge changes in norms across the state. The data taken out in 1969 suggest an overall improvement in most of the skills but in most cases the improvement was not sufficiently marked to warrant complete revision of norms.

One of the significant contributions of the project was that it made available to teachers, principals and school counsellors objective data on the performance of individual children which provided a reliable basis for assessing their relative progress through the primary grades.

However, it has also become apparent that many schools require a more flexible approach to testing than is possible if a complete battery is used at a particular time of the year. To meet this need ACER will continue to co-operate with the department of education to make tests from the battery available to schools when they are actually required. There will not therefore be a massive testing program operating at a given time.

From funds available from the allocation made by the education department it has also been possible to develop new tests in mathematics which measure, in depth, achievement in each of six topics. These tests will be made available to government schools in New South Wales by the department. They will be available to non-government schools on payment, in the same way as are other tests.

Victorian Primary Schools Testing Program

At the end of 1970 three tests will be used in this program: Comprehension in Social Studies, Understanding of Words Used in Social Studies, and Test L—a listening comprehension test from the New South Wales Basic Skills Testing Battery.

The costs of preparation and processing of the tests, and of preparing a report, are met by the Victorian Education Department.

Co-operative Scholarship Testing Program

In 1970 the number of schools using this program increased to 120. The tests used were in mathematics, English usage and comprehension, and general ability, and all told about 9,000 candidates were tested at 35 centres set up by ACER, and at approximately 150 centres where the supervision must be approved by ACER.

Each candidate pays \$2.50 and those outside metropolitan areas an additional 25 cents, and results are returned to the school or schools to which a scholarship is desired.

This year computer assistance will be used to compile attendance rosters, and to process and scale test scores.

Servicing of CSSE and TEEP

As in previous years the CSSE results for all states except New South Wales were processed for ACER at Monash University Computer Centre. Similarly, results of the TEEP Series B testing in Western Australia, Tasmania, and the Australian Capital Territory were also processed to ACER direction at Monash. Arrangements have already been made to process the results on TEEP Series B and on the Australian Scholastic Aptitude Test (ASAT) from Western Australia; plans are being made to process ASAT for the other states in which it will be used.

New Guinea

The Territory of Papua and New Guinea is continuing to use the Basic Skills Program, but we are discussing with the education department a possible change to the more flexible use of tests being now developed in the Evaluation Program in NSW.

Mr Renehan was invited to be present on 12-14 August last at a meeting of the TPNG Testing and Evaluation Advisory Committee. The meeting was particularly concerned with the place of the Primary Final Examination, the assessment of oral English, and the combination of internal assessment and external examining at Form IV level. Emphasis was given to methods which emphasized the professional role of the teacher, and support for him when his training was inadequate or external pressures were high. He conducted a brief item-writing workshop for the committee while in Port Moresby.

Miscellaneous

Some 275 candidates have attended forty test administrations conducted by ACER on behalf of Educational Testing Services

or the Psychological Corporation. Special testing services have also been conducted for the Law and Engineering Schools of the University of Melbourne, the residential colleges of the University of Melbourne, and the Commercial Travellers Association of Victoria. All these services are paid for by the recipients.

PSYCHOLOGICAL SERVICES (D. W. Bruce, D. Bradshaw)

Norms for Psychological Tests

Reference has already been made to the establishment of better or newer norms for a number of psychological tests. These will give a better service to customers. In addition, we have for some years past had an arrangement with the AMP Company to service a special selection test used with insurance salesmen, and to help them to validate it. A sufficient number of cases has not been built up to justify any work on it as yet.

Assistance to Nurse Educators and Nursing Examinations

For some years now we have been asked by groups of nursing educators, or medical officers concerned with examining nurses in the subjects of their courses, to help both in problems of selection and examining. This is not easy at a time of considerable change and uncertainty in nursing education. However, we have as a service—whose costs have been met from the general income of ACER—helped the South Australian Nursing Registration Board and the Sir Charles Gairdner Hospital in Perth in preparing their nursing examinations.

Additions from Overseas and Local Sources to Test Stocks

There are constant additions to the tests available on overseas markets, or reported in research studies. One of the important tasks of the Psychological Services Division is to find useful material prepared by local authors and overseas workers and to assess its use and the likely demand for it. Some may be of sufficient worth to justify us carrying stocks.

Bulletin for Psychologists

This Bulletin is playing a very important role in keeping ACER clients informed about tests, new developments, and ACER activities. Contributions made to it by psychologists outside ACER are becoming more and more valuable.

ADVISORY SERVICES

General (M. O'Donnell, J. Eppinger)

The number of teachers in touch with ACER through Advisory Services continues to increase. This is largely due to two factors. The first is our increasing contact with teachers in training, both through the annual distribution of free materials to final-year students and through visits whenever possible by advisory staff to teachers colleges, particularly those interstate.

The second factor is our increasing range of specialized classroom materials. Two of these, the Peabody Language Development Kits and the Frostig Visual Perception materials, have proved of particular interest and value to teachers in schools which cater for children with special needs and those concerned with remedial problems.

When it was decided that ACER should become sole Australian agent for the Literature Samplers, we considered it essential to try to ensure that the books previewed in the Samplers were readily available. Australian booksellers and representatives of overseas publishers were approached, and we have been able to compile a comprehensive list of the books available and the sources of supply. We consider that this should be our approach with all materials: we must be able to service adequately any requests for help or for auxiliary materials essential to the scheme.

As well as providing displays for established annual conferences, we have received an increasing number of requests for tests and remedial materials for reference in inservice and refresher courses being conducted at demonstration schools and teachers colleges. Whenever possible we have met such requests even though the loan period on these occasions was sometimes two months.

Groups of trainee teachers from Victoria continue to visit ACER as part of their course, and the calls on advisory staff to speak to groups outside ACER increase. One particular group with whom a closer association has been developed this year is the Special Teachers' Association of Victoria. If groups such as this exist in other states, we welcome contact with them also.

A series of two workshops, on diagnosing reading difficulties and follow-up remedial activities, conducted for a group of country teachers, suggested that there is a need for more work to be carried out in this area. It seems logical that our advisory staff should be closely involved in it. As a major distributor of tests within Australia, we have some obligation to ensure that such tests are effectively used. It has been suggested that we could offer small

workshops, either in the evening, at the weekend, or in other states during school vacations or weekends, to introduce teachers to the purposes of particular tests, and to correct procedures of administration and of interpretation. This would be of particular value in encouraging teachers to use the increasing number of diagnostic tests which require some practice for effective administration and guidance in interpretation. Suggestions for appropriate sources of remedial activities could form a part of such workshops.

Further advisory bulletins have been produced, as well as brochures and leaflets about materials, and these have helped to ease the need for lengthy letter-writing. A completely new Educational Catalogue has been prepared and we hope to release it in January 1971.

The increased use being made of Test Library and the constant need to check and update our holdings, together with the increased number of review sets available on loan from Advisory Services, have caused us to reassess our staffing needs. An experienced clerk/typist will be made available to relieve advisory staff of many of their present tasks, thus allowing more time for the appraisal of new educational materials and for involvement in materials development at the primary level.

Two workshops on IMP Kit C have already been conducted this year, one in four towns in Tasmania under the auspices of the Tasmanian Education Department and the second in Adelaide under the joint sponsorship of the Junior Schools Association and the SAIER. A third series is planned for New South Wales.

Psychological (D. M. Bradshaw)

A constant stream of inquiries makes it obvious that ACER is looked to by many in the community as a source of information and assistance on all aspects of psychological assessment and on the techniques of remediation which may be required to follow such assessment. This involves communication with psychologists and educationists in many ways—by telephone, letter, interview, and in the presentation of talks and lectures. Although educational and clinical areas occupy the larger part of our advisory time, a satisfactory balance with personnel work has been achieved. An advisory service to personnel and training officers has been maintained and increasing use is being made of it. We are being invited more frequently to address management and personnel institutes and to explain this side of our activity to psychologists in government vocational guidance services. We feel that this activity is

providing backing for training officers and through them leading to the improvement and expansion of sound training programs in industry. This, in turn, is leading to the appointment of more psychologists and training officers.

Social Sciences (D. M. Bennett, B. Bullivant)

To provide a national source of information about the teaching of social sciences in secondary schools, we established last year a centre collecting information about overseas developments, as well as local moves, intending to make available from it information about general and particular activities, evaluations of courses, and analyses of textbooks, materials, etc. A grant from the Myer Foundation for 1970 has enabled us to publish one bulletin so far, and two others will appear before the end of the year. The first was sent to all secondary schools in Australia as well as to many others (e.g. examination boards) with interest in the topic. Continuation of the bulletin and indeed of the centre will depend upon funds being available other than from ACER general income. If funds are available, the centre can, I believe, perform a useful purpose as a means of communication between people with similar interests about both Australian and overseas developments.

Mr Bennett gave considerable thought to the operation and functioning of the centre, and to the material for the bulletin. During his leave of absence for study purposes, Mr Fitzgerald is giving general supervision to the service.

LIBRARY (C. A. Brown, J. Washington, J. M. Shield)

The library is continuing to reorganize the stock, to bring records up to date, and to fill in gaps in the collection. Missing issues of serial material are being sought from institutions publishing them and from other libraries with duplicates for disposal. The reorganization of the library records is proceeding satisfactorily, but is slow because of the constant demands being made on the library. However, the service being given to staff has improved, and increased demands for material and information indicate the value of the library service to members of staff. The weekly accessions list has stimulated demands from the staff for books and journals, and fulfils its function of bringing new material to the attention of staff. A satisfactory pattern of loans from other libraries and loans to them has been built up, and the library can usually obtain material requested by staff within a reasonable period. New journal titles

and new book titles are regularly reported to the National Union Catalog, so that the library is contributing in a small way to the general availability of research material.

The library has continued to act as a centre of information for other libraries in the field of education, and it answers inquiries from all over Australia. This service is reciprocated by librarians in other institutions, and librarians in education libraries co-operate informally to provide information. It is hoped that informal schemes of co-operation between libraries with similar needs will continue to develop, to the benefit of educational research generally.

Mrs Brown as librarian-in-charge has taken an active part in seminars and conferences held by the Library Association of Australia. She has also been a member of the Course Advisory Committee on Librarianship of the VIC, and the Melbourne Teachers College Library Advisory Committee.

A summary of observations formed after visits made to libraries since January 1969 is the basis of a *Quarterly Review* entitled 'Libraries in Education'. In this the opinion is expressed that the factors inhibiting the development of libraries in education are the lack of awareness of their importance in the educational process and the consequently poor funding of libraries generally.

The *Australian Education Index* has come out regularly, with cumulation to the end of the year. It has been expanded to include reviews of books, and a separate current bibliography of Australian education will be included in the 1970 cumulation.

An investigation of the listing of theses submitted for higher degrees has shown that current listing of theses is not easily available. It is hoped that entries for theses can in future be obtained from university libraries and included in the *Australian Education Index*. This will then ensure that all current research in education is being listed as soon as it appears in a form available for loan.

Four issues have been distributed of the Library-Information Centre Bulletin. These attempt to document types of material used in education and have so far covered reports on education, journals, government publications, and reference sources. The response to these indicates that they are useful to librarians and educationists generally, though their primary purpose is to assist in answering reference inquiries for ACER staff. The bulletins have been circulated to universities, teachers colleges, and education departments. The listing of reports on education has been the most useful of these bulletins, and a new and enlarged edition will be issued at

the end of the year to incorporate many of the reports omitted in the first edition. Future issues of this bulletin will deal with the availability of thesis material, publications on statistics in education, and a guide to Australian institutions concerned with educational research.

When bulletins covering the major areas needing this type of documentation have been completed, it is hoped to revise, update and consolidate the information in a handbook to Australian education resources.

As for future developments, the greatest need in educational research libraries is for information allied to the easy procurement of copies of material indexed. With the *Australian Education Index* as a base for the recording and dissemination of information, a logical development is the expansion of this service to include the despatch of a copy of the material wanted, rather than information about its location. The present system of indicating location only can be frustrating to a research worker who is interested in the immediate use of the material. The lead has been taken in America (ERIC, CFSTI, HRAF, etc.) and Britain (National Lending Library of Science and Technology) to join the indexing of material with the provision of a copy of the material, and this service is needed in Australian educational research. As a centre for information, the ACER library could expand its activities to give this much needed service, using overseas systems as models and benefiting from their experience. A feasibility study of the need for and provision of this service could well be incorporated in library activities over the next year.

PUBLISHING (I. Fraser, P. Jones)

Introduction

Book publishing (new and reprint) was more vigorous this year than for some time. Six new and five reprint titles were released. Of the new books, *Objective Tests and Mathematical Learning* had immediate success and we sold a thousand copies in the first eight weeks. There were good orders from education departments—1,400 books in all—for the fourth edition of *Books for the Retarded Reader*. We have now sold close to 20,000 copies since it was first published in 1959. Ernest Benn Limited, a London publisher, recently bought UK rights to *Books for the Retarded Reader*. Mrs Joan Hart reviewed further series of books and removed some which were not suitable for UK conditions. We have

sent her manuscript to London, and the UK edition should be available early in 1971.

Negotiations have been completed with Angus and Robertson (Publishers) Pty Ltd to be our sole book agent in Singapore, Malaysia, Hong Kong, Thailand, and Indonesia. Their office in Singapore represents a number of leading Australian publishers, and we look forward to a successful association with them in a growing educational market.

Publicity

During the year we made frequent contact with schools through journal and magazine advertising, through leaflets and brochures on our publications, through articles we sent to teachers' journals on aspects of ACER'S work, and through the *ACER Newsletter*. We also provided books and tests for local and overseas displays, and were again represented at the world's leading book fair at Frankfurt. The Department of Trade gave wide coverage in Canada and Asia to copy supplied by us on some ACER publications. Our current booklist was mailed to leading booksellers throughout the country, to ordering public libraries, and to those on the ACER mailing list.

Books

Books for the Retarded Reader (fourth edition) by J. A. Hart and J. A. Richardson

This successful ACER book, first published in 1959, has reached its fourth edition. For it, Mrs Joan Hart made fresh contacts with publishers and agents, to ensure that the entries were as up-to-date as possible and representative of the material available. She has added new series of books, and removed older ones which had become out of print or old-fashioned, commenting that 'there has been a considerable falling off in the essential tool for all remedial teaching—attractive, interesting books designed particularly for the needs of children who find reading difficult and unpleasant'.

Admission to Tertiary Studies by Bernard Rechter

Occasional Paper No. 2. This report is an account of work to date in the Tertiary Education Entrance Project—an experiment set up to investigate the possibility of replacing or supplementing matriculation examinations as the means of selecting students for tertiary education. The author gives an account of the tests pre-

pared for the project and outlines a possible use of the results to free the schools from constraints imposed on them by the present subject-centred examinations.

Closed Circuit Television in Teachers' Colleges by Bernard Hawkins

Occasional Paper No. 3. There has been recently a sudden upsurge of interest in CCTV for teacher education. Teachers colleges and university faculties of education are equipping themselves with CCTV and integrating its use into many aspects of teacher training. The author details the facilities available and gives examples of the ways in which they are being used.

Objective Tests and Mathematical Learning by Noel Wilson

This book grew out of three years' experience by the author as chief examiner for the Commonwealth Secondary Scholarships Examination in quantitative thinking. He deals with the various functions of classroom tests, and with the tests of mathematical learning exemplified by the many CSSE questions listed. Transcripts of two panel meetings of item-writers have been included.

Planning in Australian Education by G. W. Bassett

The National Seminar on Educational Planning, held in Canberra in 1968, was a major event in Australian education. It produced a wealth of information of lasting value to educationists and administrators. Professor Bassett has given an account of the ideas arising from the papers and from the lively discussion, and details the objectives and procedures of educational planning (pre-school, primary, and secondary) as it might be attempted in Australia. The book includes many of the papers circulated before or presented at the seminar by local and overseas authorities, and also an excellent wide-ranging international bibliography.

The Secondary School at Sixes and Sevens by R. T. Fitzgerald

The author has taken account of a complex of factors coming to bear on the secondary school during the 1960s. These include such aspects as the size and nature of the student body, financial policy, the teaching force, timetabling, and curricula. Developments in each area have been analysed and their implications for the learning process discussed. This is the first major educational review by ACER since *Review of Education in Australia 1955-1962*, and represents a departure in approach from earlier reviews. It was decided at the 1964 Council meeting that future reviews should be more interpretative, using events and statistics as the focal point for analysis, comment, and forecast.

Tests

California Psychological Inventory

An Australian adaptation of the CPI test booklet was published along with local printings of the record form and the profile sheet. This has made the inventory more suitable for use with Australian subjects, and has maintained regularity of supply.

Victorian Matriculation Physics Testing Program

A 'closed' test was produced to enable schools to obtain confidential results on the students' physics achievement for the year.

Victorian Primary Schools Testing Program

The item produced for use in the 1969 program was the Test of Comprehension in Social Studies, an 'overlapping' test suitable for use with Grades 3 to 6.

Queensland Test

This year ACER took over publication of the Queensland Test, first published in 1968 by the University of Queensland Press. The QT is an individually administered test which does not require the use of language. For this reason the test is of particular value in situations of reduced communication. The items are so arranged that the progressive elaboration of solution in each item is used to increase the difficulty of the item without increasing the complexity or ambiguity of the instruction. The QT consists of five subtests: (i) Knox Cube Imitation, (ii) Beads, (iii) Alexander's Passalong, (iv) Form Assembly, (v) Pattern Matching.

Progressive Achievement Tests (NZCER)

Special printings of one form of the Comprehension Test and the Vocabulary Test were printed and used in a testing project by the Division of Guidance and Adjustment (NSW). These tests were first published by the New Zealand Council for Educational Research.

Commonwealth Secondary Scholarships Examination

New Quantitative, Science, Humanities and Written Expression tests were used in the 1970 program. This year, to maintain stricter control over quality, complete runs of particular tests were done by individual printers—instead of having each printing parts of the total quantities required of all tests. New test-cover symbols and designs were introduced.

IEA Science Project Tests

These are revised editions of the tests used in 1969, altered in the light of the pilot testing in about twenty countries.

Inside the Body Test

The Department of Psychological Medicine at Monash University organized with us the publication of two versions of ITBT. The test is being used to study 'body image distortion' in a wide range of patients.

Co-operative Scholarship Testing Program

The four new items produced in 1969 were: General Ability Test, Level 1; General Ability Test, Level 2; Composition Test, Levels 1 and 2; Handbook.

Tertiary Education Entrance Project

Six Series C tests were printed. These tests are modifications of the Series A and B tests previously prepared in the areas of quantitative thinking, science, written expression, social sciences, humanities.

Commonwealth Public Service Board

We made available to the board a Test of Scientific and Quantitative Thinking, which they used experimentally in 1970.

Periodicals

Quarterly Review of Australian Education

The three numbers so far issued in volume 3 of the *Quarterly Review* dealt with the following topics:

- No. 1 'Television in the Australian Classroom', Bernard Hawkins;
- No. 2 'Australian Catholic Schools', J. E. Bourke;
- No. 3 'Libraries and Education', C. A. Brown.

The journal adopted a new format for this volume.

Chronicle of Australian Education

Publication of the *Chronicle* ceased with the third number of volume 2. The journal had been variously received and used by its subscribers, but proved to be too narrow in its appeal for economic operation.

Bulletin for Psychologists

The *Bulletin* continues to be of value to the 1,500 or so readers on its mailing list. Numbers 11 and 12 were distributed.

Australian Education Index

The *Index* has been consolidated at five issues a year. It appears in May, July, September and November, with an annual cumulation in March.

ACER Newsletter

The *Newsletter* has developed into a most useful medium of communication with teachers and administrators. We increased its circulation to include teachers colleges. During the year, it reported on a variety of ACER projects and publications, e.g. Secondary Schooling in the Sixties, Educational Television, IEA Science Project, Objective Tests and Mathematical Learning, Australian Science Education Project, Colleges of Advanced Education.

Australian Journal of Education

The journal continues to be edited for ACER by Professor W. F. Connell of the University of Sydney, with the help of assistant editors in all states nominated by the state Institutes, and of a small committee of the Australian College of Education. The next number, vol. 14 no. 3, will contain two papers given at the eleventh annual conference of the Australian College of Education.

NICSSE Bulletin

The bulletin was launched this year, and two numbers have been released. Its publication represents one means of achieving the objectives of the National Information Centre for Social Science Education, set up at ACER in 1969. The Centre aims to provide information to teachers and others about recently published materials in the social science field, to give accounts of relevant research and development going on here and overseas, and to set up means of communication between people working in the area.

Reprints

Education in the Inquiring Society by Margaret Mackie

Study Type of Reading Exercises by Ruth Strang

Assumptions Underlying Australian Education by R. Freeman Butts

Australian Catholic Schools (Quarterly Review vol. 3 no. 2) by J. E. Bourke

Reading Aids Through the Grades by D. H. Russell and E. E. Karp
Western Australian Reading Development Scheme

STAFF

Travel and Professional Involvement

(a) *Travel.* Senior staff have again been involved in a considerable amount of interstate travel in connection with ACER projects, with professional associations, and with institutions and organizations asking for their services as speakers or consultants.

International travel has been limited. Dr de Lemos returned from her twelve months abroad in January last. The terms of the Post-doctoral Travelling Fellowship awarded to her by the ANU enabled her to spend the first six months of 1969 in Geneva working with Piaget and Inhelder. She then moved to London where she was attached to the NFER and the Institute of Education at the University of London but was able to visit other centres in the United Kingdom. En route for Australia she visited a number of centres in Canada and the USA concerned with development of concepts.

Mr Rosier and I, at IEA expense, will be attending meetings connected with the IEA Project. I will attend the IEA Council meeting in Amsterdam at the end of October and Mr Rosier a meeting of Technical Officers in Rome. Each of us will take the opportunity to make other brief visits while overseas. Mr Rosier attended a similar meeting in Stockholm at the end of 1969.

(b) *Professional Involvement.* Attendance at seminars, conferences, and meetings of professional societies, the presentation of papers and the writing of articles all provide good professional refreshment. Many members of staff have been involved in these ways during the year.

Lecturing and Consultative Work

Members of staff have again been involved in lecturing in universities.

Mr Rechter and I have planned the half-year's course in Measurement in Education for the B.Ed. course at the University of Melbourne, but Mr Rechter this year undertook the whole course, calling on other members of staff where required.

Miss Maling's help was again requested by Monash University, on a reimbursement basis to ACER, and she has helped with English courses in the Diploma of Education courses.

Mr Rosier's help was also requested, on a similar basis, as a consultant in design and methodology in experiments. He has also been asked to lecture on statistics in his own time.

Dr Clark has helped the psychology staff in the School of Education at Monash with tutorial work, in his own time.

Mr Fitzgerald has continued to help with tutorials in history at La Trobe University.

Mr Brian Bullivant, who is assisting in the work in social sciences on a part-time basis, is also lecturing in this field in the School of Education at Monash and La Trobe universities.

Staff Seminars

Staff seminars on matters of particular interest related to work being done by the seminar leader have continued throughout the year, and have been useful to both the leader and the participants as a means of communication of ideas and viewpoints.

Higher Degree Work

Dr M. L. Clark was awarded his Doctorate in Philosophy by the University of Western Australia for his thesis entitled 'The Structure of Inter-relations Among Primary Reading and Listening Tests'. His examiners gave the thesis high praise. Dr Clark is preparing monographs on the topic of his thesis to describe both the rationale and the conclusions.

Mr D. M. Bennett has been given up to two years' leave of absence and has enrolled as a student for the Ph.D. at Monash University.

Mr G. Gosling is completing his thesis for the Ph.D. degree of the University of Manchester.

A number of other members of staff are enrolled as students for the master's degree, usually in education. In some instances the thesis to be presented is directly related to work being done at ACER on an ACER project, although usually it concentrates on one aspect only of the project and always requires evidence of some independent work by the staff member concerned.

Changes in Staff

We have had a number of staff changes during the year. In particular I would like to mention Dr M. L. Turner's appointment as a Reader at La Trobe University, and Mr N. Wilson's appointment as Principal Research and Planning Officer of the South Australian Education Department. Neither has been easy to replace.

Secondments

We have been fortunate to have the services of Mr Izard on secondment for two years from the Victorian Education Depart-

ment, with the ACER meeting salary and other costs; and Mr D. Palmer on secondment for three months from the Tasmanian Department of Education, with ACER supplementing his salary to meet particular living expenses. Mr D. Goodger was also seconded to us for two separate monthly periods, at ACER cost, by the Victorian Education Department.

The South Australian Education Department has seconded Mr R. C. Ryan and Mr K. L. Williams to work with us, during third term, on test development.

Director's Activities

1. I have been fortunate to be involved during the last year in two interesting and I believe very important committees: the Committee of Inquiry into South Australian Education, under Professor Karmel's chairmanship, which hopes to complete its work by the end of the year, and the committee inquiring into public examinations in Queensland, which I was invited to chair.

The latter committee presented its report in May last to the Minister, and it was published by the education department early in July with the title *Public Examinations in Queensland*. Its recommendations were adopted by Cabinet and the two government political parties, and legislation to put into practice the recommendations made is now being drafted. Research studies undertaken by the Queensland Department of Education over a period of years provided valuable data as a basis for a number of the recommendations. Our colleagues at NZCER, SCRE, NFER, ETS and OISE helped considerably with information about public examining in their own countries.

2. As president of the Australian College of Education I have been more involved this year in college affairs than in the immediate past, but have been able to combine necessary visits to various chapters of the college (except Western Australia, to date) with other activities. The wide range of associations made through the college has been of very great value to me in a number of ways.

3. The Research Subcommittee of the Commonwealth Advisory Committee on Advanced Education had this year to consider nearly one hundred applications for assistance with research projects. As a member of the subcommittee I found that critical reading of the applications, and deliberations upon them, reinforced the views that

(a) qualified and experienced research people with adequate

- spare time to undertake significant studies are not readily found, and the supervisory time of the well qualified is spread very thinly in some places;
- (b) there is a wealth of enthusiasm and interest, which with effective training and experience could be useful;
 - (c) the specification of a limited manageable proposal based on sound knowledge is for most of us a very difficult task.

4. Other activities have included membership of the Victorian Regional Committee of the Winston Churchill Memorial Trust, and continued membership on a part-time basis of the Australian Broadcasting Control Board. The latter has involved, in addition to normal meetings, brief participation in two public inquiries in 1970 in regard to licences for television and radio.

ACCOMMODATION

The Commonwealth government was not able to provide ACER with capital for building additional accommodation. Any such building must, it appears, be financed by the ACER from its various sources of income.

We have provided accommodation during the year for the rapidly growing staff of ASEP, which was not able to occupy its own quarters until late in August 1970. Apart from a number of rooms in Frederick Street, all the accommodation in one of the Wakefield Street properties was occupied by ASEP staff.

One of the other properties in Wakefield Street was also used by the staff of the CAE project. Both will therefore become available for other use before the end of the year. We will therefore have some spare accommodation both in Frederick Street and Wakefield Street to use for any immediate developments.

The ACER has to pay, by the end of 1972, an outstanding amount of \$12,000 on the Wakefield Street properties. It will then fully own all three.

FINANCE

Government Grants—General

Government grants during the financial year totalled \$80,005, of which \$40,005 came from the states and \$40,000 from the Commonwealth.

As reported at the beginning of the report, a request has been made to the states and the Commonwealth to increase the annual grants by a substantial amount. The annual grants referred to are

for general purposes, and are only a small part of the total income. The other main items of revenue to meet the costs of the project and service work undertaken, excluding the direct selling and distribution operation for the moment, come from the following three sources.

Grants—Earmarked

Grants for special purposes are received from both Commonwealth and state governments and from other sources. During the last financial year these totalled \$109,000 (approx.) and were principally for the following specific purposes:

- research into Commonwealth secondary scholarships,
- research into colleges of advanced education,
- development of materials for social science education in secondary schools,
- development of tests in biology for senior secondary school students,
- establishing a clearing house in social science education in secondary schools,
- continuing the project in closed circuit television,
- for a short time, prior to his move to La Trobe University, Dr M. L. Turner's study of the relationship between time spent in school and home activities and achievement in senior secondary school studies,
- research into factors leading to the early drop out of aboriginal students from secondary schools,
- the likely use of post office facilities in the use of telecommunications in education.

Contracts

Again, in 1969-70, a good deal of the test-development work in which the ACER'S staff was engaged depended upon the income from special contracts. The principal contracts were those with the Commonwealth government for the secondary scholarship and tertiary education entrance tests, but others were with public examination boards, public service boards, the Republic of Nauru, and the Victorian Education Department. In 1969-70, the income derived was \$51,000.

Servicing Costs

In a number of the testing projects and programs in which we are involved with outside agencies, the agency either pays a fee for marking, processing and reporting services, or meets directly the

cost of the work concerned. In some of these instances, ACER meets the initial bill for any costs incurred and is then reimbursed. Only income received to meet costs initially paid by ACER appears in our accounts. In 1969-70, the income totalled \$253,000.

In most of these there is no profit margin at all. At the most, administrative costs are passed on and included in any bill presented.

Sales Operations

In addition to these sources of income, there is a gross income from the ACER's operations in selling tests, books, and selected educational materials. Offset against this income, of course, are the normal costs of printing or procuring the items sold, freight, storage, distribution and selling expenses, and a number of minor items apart from the salaries of the staff concerned.

We consider it legitimate to charge against this income also the cost—or at least the major part of the cost—of advisory services given about the materials we sell and distribute.

It is also right, I think, that we charge most but not all of the costs of our Publishing Division's activities against this income. Some of the editorial activities of the Division are more properly charged against projects such as the printing of the CSSE tests.

The gross income from all trading activities, including the sale of ACER books but excluding royalties and the income from subscriptions to the various periodicals, was \$410,000, including approximately \$15,000 from the sale of books. This exceeded our estimate of \$370,000 and was \$80,000 more than in 1968-69.

The net income available for general purposes was \$82,621, as against the estimate of \$81,750.

Approximately 25 per cent of the \$410,000 was derived from materials, of which the major item was the WA Reading Development Scheme. Gross profit from this source was equivalent to total profits from all other major sales of materials, viz. IMP, ITPA, WISC, WAIS, Programmed Reading Kit and Peabody Language Development Kits.

Income of \$100,000 from materials in 1969-70 compares with \$32,000 in 1965-66, more than a threefold increase. In the same period, gross income from test sales and books has risen from \$186,000 to \$313,000. Of this amount \$24,677 was derived from books and \$37,219 from 'special' imports and printings of tests not catalogued as stock lines. Test sales have increased steadily over all categories. General ability tests (48 items) have been the

major source of income again with a gross income of \$61,302 (\$60,344 in 1968-69). Psychological tests produced \$39,113 from 121 items in 1969-70, compared with \$31,972 in the previous year; and achievement tests \$35,663 (\$38,972 in 1968-69) from 36 items. However, only 75 items (30 per cent) accounted for over 50 per cent of gross profit, and of these 25 items (10 per cent) produced more than 50 per cent.

It must be stressed that these figures are gross income and that no more than 20 per cent of them is net gain to ACER funds.

Total Results 1969-70

After providing for \$9,000 for additional commitments for study and long service leave (largely to take account of higher salaries), the year's activities left us with a credit balance of approximately \$12,200 in general income, but a debit balance of approximately \$9,900 in the Publications Fund. Some of the latter will be recovered from later sales.

It appears unlikely that ACER will receive government help in any building program which it needs to undertake, and if resources for such building are to be provided, a considerably greater credit balance over a number of years will be needed.

CONCLUSION

At its peak during the year, the staff including the members of the ASEP team numbered 127 full-time and part-time members. Excluding ASEP, the numbers were 96.

Size and quality are not necessarily positively related. If they are to be so, the relation must be worked at. I have, I think, expected some of the senior staff to carry at one and the same time an administrative load and a professional responsibility which often do not fit easily together. Nevertheless I think the Council has been well served by the people concerned, as it has by the staff as a whole.

I would like to thank personally all members of staff, and particularly those who, because of my outside activities during the past year, have accepted and carried unaccustomed responsibilities. To Dr Clark above all, I am greatly indebted for his cheerful acceptance of a heavy administrative task.

I hope that the imminent appointment of the Senior Executive Officer of the ACER will take a good deal of the administrative detail from the senior staff, and allow us to devote the major part of our time to both participation in and supervision of research and development.

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ACER Staff

At 31 October 1970

DIRECTOR

W. C. Radford, M.B.E., M.A., M.Ed., Ph.D., M.A.Ps.S., F.A.C.E.

ASSISTANT TO DIRECTOR

Measurement, Advisory and Publishing

M. L. Clark, B.A., B.Ed. (Hons), Ph.D., M.A.Ps.S., M.A.C.E.

SENIOR EXECUTIVE OFFICER

J. M. Drummond, F.C.A. (from 12.10.70)

GENERAL RESEARCH

R. T. Fitzgerald, M.A., Dip.Ed., M.A.C.E.

(Mrs) M. M. de Lemos, M.Sc., Ph.D.

G. W. H. Gosling, M.A., B.Ed., M.I.L.(Fr.)

B. C. Horne, B.Sc., B.Ed., M.A.C.E. (on leave from Gordon Institute of Technology, Geelong)

M. J. Rosier, B.Sc., M.Ed.

(Mrs) P. F. Segall, B.A., Dip. Ed.

(Mrs) J. Crosher, B.A. (Hons) (part-time)

(Mrs) I. M. Kilkenny, M.A. (from 9.2.70; part-time)

(Mrs) W. Williams, B.A. (from 4.2.70; part-time)

Malvern Project

Bro. B. Hawkins, F.S.C., B.A., B.Ed., M.A.C.E.

G. Allen (from 19.1.70; seconded from Vic. Ed. Dept)

I. Mortlock, A.U.A., Dip.T.Sec. (from 19.1.70; seconded from SA Ed. Dept)

MATERIALS DEVELOPMENT

D. M. Bennett, B.A. (Hons), T.Dip. (on leave)

B. Bullivant, B.A., I.E.T.C., F.R.G.S., M.A.C.E. (from 2.2.70)

(Mrs) J. Webber, B.A. (Hons), B.Ed. (Hons) (part-time)

TEST DEVELOPMENT

B. Rechter, M.Sc., B.Ed., M.A.C.E.

(Miss) J. M. Maling, B.A., Dip.Ed.

J. F. Izard, B.Sc., B.Ed., T.P.T.C., M.A.C.E. (seconded from Vic. Ed. Dept)

D. J. Arney, B.Sc. (from 11.2.70)

(Miss) J. Baldwin

- (Mrs) M. Batten, B.A., B.Ed. (from 15.9.69; part-time)
 (Miss) A. Grant, B.A., Dip.Ed. (from 27.1.70)
 (Mrs) J. Knight, B.A., Dip.Ed. (from 8.6.70)
 (Miss) A. D. Read, B.Sc., Dip.Ed.
 R. C. Ryan, Dip.T.Pr. (seconded from SA Ed. Dept)
 K. L. Williams, Dip.T.Pr. (seconded from SA Ed. Dept)

TESTING PROGRAMS AND SERVICES

- W. T. Renehan, B.A., B.Ed.
 (Mrs) N. E. McBean, B.A., Dip.Ed.
 (Mrs) B. Hay, B.A. (Hons) (part-time)
 (Miss) A. J. Simpson, F.S.T.C.
 (Miss) E. Watson, B.A.
 R. E. Wilkes, B.Com., B.Ed.
 (Miss) J. E. Prior

PSYCHOLOGICAL SERVICES

- D. W. Bruce, M.A., M.A.Ps.S.
 (Mrs) D. M. Bradshaw, B.A., Dip.Ed., M.A.Ps.S.
 (Miss) M. Hengeveld, B.A., Dip.Soc.Stud.
 (Mrs) J. Jenkinson, B.A. (from 24.2.70; part-time)
 (Mrs) G. Mackey, B.A. (from 13.2.70; part-time)

LIBRARY

- (Mrs) C. A. Brown, B.A., Dip.Lib., A.L.A.A.
 (Mrs) J. Washington, B.A., Dip.Lib., A.L.A.A.
 (Mrs) J. Shield, B.A., Dip.Ed. (from 9.2.70)
 (Mrs) S. Houghton, B.A., A.L.A. (part-time)
 (Mrs) S. Haynes

ADVISORY

- (Miss) M. E. O'Donnell, T.P.T.C., M.A.C.E.
 (Mrs) J. Eppinger, T.P.T.C.
 (Mrs) P. Burns (from 5.10.70; part-time)

PUBLISHING

- I. C. Fraser, M.A.
 (Mrs) P. Jones, B.A. (Hons)
 (Mrs) B. McFerran (from 1.10.69)

ACCOUNTANCY

- (Miss) P. Staurengi, B.A., B.Com.
 (Mrs) P. L. Arnold (part-time)
 (Mrs) M. Kosky (from 10.3.70; part-time)
 (Mrs) T. Wilson

ADMINISTRATION OFFICERS

S. G. Powell, B.A., Dip.Ed.Admin. (part-time)
G. Johnson (part-time)

SALES AND DISTRIBUTION

E. P. McIlroy
(Mrs) M. E. Clarke
(Mrs) M. Engellener (part-time)
C. Barnard (from 17.8.70)
S. Castelle (from 12.5.70)
I. G. Gadd
T. M. George
(Mrs) T. Harding (from 11.5.70)
(Mrs) J. Russell
(Mrs) P. Taylor
J. Wilson

SECRETARY TO DIRECTOR

(Miss) K. A. Saunders

OFFICE

(Mrs) J. D. Turnbull
(Mrs) N. Allen (part-time)
(Mrs) C. Bretherton (from 14.4.70)
(Mrs) G. Davies
(Mrs) C. Domini
(Mrs) B. Flinn (from 29.4.70; part-time)
(Mrs) K. W. Goodluck
(Mrs) I. Lyons (from 4.5.70)
(Miss) M. Olsson
(Mrs) D. Parry (from 26.2.70)
(Mrs) P. Rachajaibun (from 23.2.70)
(Mrs) J. Thompson (from 8.6.70)
(Mrs) D. B. Warnecke
(Mrs) J. N. Wiseman (part-time)
(Miss) A. Wullemin

CLERICAL AND TECHNICAL ASSISTANTS

(Mrs) C. Bayley
(Mrs) N. Anchen
(Mrs) R. Campbell
(Mrs) M. Corfe

Contributions to Council Funds

The Council acknowledges, with thanks, the following contributions received during the financial year ended 30 June 1970:

AUSTRALIAN GOVERNMENTS

Commonwealth	\$40,000
New South Wales	15,253
Victoria	11,040
Queensland	5,870
South Australia	3,575
Western Australia	2,880
Tasmania	1,387
	\$80,005

TRUSTS, FOUNDATIONS, ETC.

For Malvern Project (in association with De La Salle Brothers)

Ford Motor Co.	\$1,654
GMH	300
Ian Potter Foundation	1,500
Herald & Weekly Times	1,000
Mt Isa Mines	1,000
Sunshine Foundation	2,000
Western Mining Corp.	100
Repco	250

\$7,804

For Clearing House Activities and Curriculum Development in the Social Sciences

Myer Foundation \$5,000.00

For Specific Research Projects

Victorian Ministry of Aboriginal Affairs—for research project \$10,000.00
 Australian Post Office—for research project \$4,000.00

For General Research

Newcastle Branch, NSWIER \$38.50
 Miscellaneous \$2,380.61

State Institutes for 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.

ANNUAL REPORTS 1969-70

NEW SOUTH WALES

Office Bearers

Patrons Professor C. R. McRae, Dr G. E. Phillips

President Mr J. C. Nield

Vice-Presidents Dr R. G. Staines, Mr L. Fragar, Miss Joan Fry

Hon. Secretary Mr C. von Sturmer

Assistant Secretary Mr J. L. Sheppard

Treasurer Mr L. A. Whiteman

Librarian/Research Officer Mr R. Pert

Assistant Editor, Australian Journal of Education Dr R. Rawlinson

Additional Committee Members Associate Professor T. W. G. Miller, Associate Professor R. L. Debus. Co-opted: Dr V. Couch, Dr L. C. D. Kemp, Mrs D. Thew, Mr D. L. Phillips, Mr D. Trathen

Representative on ACER Professor D. Spearritt (new term)

Alternative Delegate Professor J. Keats

Meetings

These were held as under:

October 1969. Dr S. S. Richardson: 'Concepts of a College of Advanced Education (as interpreted by the Canberra College)'.
November 1969. A panel comprising Mr G. W. Muir, Director of Teacher Training, NSW Department of Education, Dr J. Flak, Head of the Teacher Education Program, Mitchell College of Advanced Education (Bathurst), and Mr M. E. Dunkley, Director of the Teacher Education Programme, Macquarie University, presented views for discussion on 'Teacher Education' from their respective standpoints.

April 1970. Symposium on 'Student and Senior Pupil Unrest'. Panel of speakers was Professor T. Brennan, Department of Social Administration, University of Sydney, Professor S. Encel, Department of Sociology, University of New South Wales, and Mr Percy Allan, President of the Students Representative Council, University of Sydney.

July 1970. Professor D. Spearritt: 'Present State of Educational Research in Australia'.
September 1970. Mr L. C. Higgins and Dr R. W. Rawlinson: 'Some Research on the Growth and Functioning of Intellectual

Structures in Terms of Piaget's Theory and Its Implications for Research Practices in New South Wales'.

Newcastle Branch

The Newcastle Branch of the Institute has advised of the following addresses and events:

July 1969. Mr E. E. Grey: 'Decentralisation in the Department of Education in New South Wales'.

September 1969. Dr F. Katz: 'Role Definition of University Lecturers by Students and Staff of Universities'.

October 1969. Symposium on Education of the Handicapped. Participants were: Mr R. W. Harland, Miss H. Bros, Mr M. Rabbitt, Mrs E. Banks.

November 1970. Dr Olive Wykes: 'Research on the Attitudes of School Children towards Their School Subjects'.

February 1970. Mr P. Chopra: 'Creativity and the Classroom—An Operational Teaching Model'.

March 1970. Dr I. S. Turner: 'Regional Education Authorities for Australia with Specific Reference to the Newcastle Area'.

April 1970. Professor H. Philp: 'Developments in Tertiary Education in Australia in the Sixties'.

June 1970. Mr K. F. Collis: 'Developing a Mathematics Curriculum in Western Samoa'.

Membership

There has been little fluctuation in this over the period and total strength remains at 176 including fifty-six in the Newcastle Branch of the NSW Institute.

VICTORIA

Office Bearers

President Dr L. W. Shears

Vice-Presidents Mr G. D. Bradshaw, Dr G. J. Allen

Hon. Secretary Mr A. J. P. Natrass

Hon. Assistant Secretary Mr W. M. McKinty

Hon. Treasurer Mr G. J. Whitehead

Executive Members Mr W. C. Watson, Mrs B. Falk, Dr R. G. Rowlands, Professor S. S. Dunn, Mr L. L. Foster, Miss I. Palmer, Mr L. Bell (co-opted)

Representative on ACER Mr G. D. Bradshaw
Assistant Editor, Australian Journal of Education Dr L. W. Shears

Membership

At the end of 1969 there were 522 members. On 10 September 1970 the financial membership stood at 444.

General Meetings

November 1969. Mr G. Allen: 'The Study of Classroom Interaction at the Preparatory Grade Level through the Analysis of Teachers' Verbal Behaviour'.

March 1970. Annual meeting with an address by Professor P. J. Fensham: 'Is There a Drift from Science in Australian Education?'

April 1970. Dr G. A. Ramsay and Mr L. G. Dale, Assistant Directors of the Australian Science Education Project: 'Research and Development in Curriculum Reform'.

June 1970. Sir Alec Clegg, Chief Education Officer, West Riding County Council, Yorkshire, England: 'Secondary School Organization in England and the Emerging Middle School', the seventeenth Frank Tate Memorial Lecture.

June 1970. Dr Edmund King, Reader in Comparative Education, King's College, University of London: 'Education and Social Change: The Scientific Approach to the Development of Educational Policy', the fourteenth Theodore Fink Memorial Seminar.

August 1970. Mr T. H. Timpson, Victorian Universities and Schools Examinations Board, 'Education or Selection'.

September 1970. Professor Marie D. Neale, Monash University: 'Educational Research into Talent and Disability', the John Smyth Memorial Lecture.

October 1970. Primary Education Today (PET) Lecture Series: 'Modern Trends and a New Philosophy'.

G. S. Browne Prizes

The closing date for the reports submitted for these competitions has now been changed to 30 January. The 1968 prize for educational practice was presented in March 1969 to Mr B. G. Williamson for his entry entitled 'An Evaluation on the Introduction, Development and Trends of Fluid Grading in Solid Geometry at Hamilton Technical School'.

The 1969 awards were: Educational Research Prize: 'An Investigation of the Discriminant Validity, Reliability Estimates, and Some Correlates, of a Word Recognition Test for Children—Ages 7-11' by Miss H. J. Williamson and Mr I. L. Ball; Educational Practice Prize: 'Mobile: A Report of a Five-day Social Studies Tour of Western Australia' by Mr L. F. Huon and Mr R. G. White.

VIER Bulletin

No. 22 was published June 1970 and No. 23 in November 1970.

Groups of the Institute

All groups of the Institute have functioned effectively during 1970. The successfully reformed Research Group is conducting a most vigorous program as also are the five Regional Groups (Shepparton, Colac, Horsham, Hamilton, Bairnsdale).

SOUTH AUSTRALIA

Office Bearers

Patron Mr A. W. Jones, Director-General of Education for South Australia

President Mr R. J. Gilchrist

Vice-Presidents Mr R. S. Coggins, Mr K. L. Berndt

Hon. Secretary Mr D. A. Dent

Hon. Treasurer Mr J. M. Cosh

Representative on ACER Mr R. J. Gilchrist

Assistant Editor, Australian Journal of Education Dr N. A. Nilsson

Hon. Auditor Mr N. W. Edwards

Committee Mr K. L. Berndt, Mr R. S. Coggins, Mr J. M. Cosh, Mr D. A. Dent, Mr R. J. Gilchrist, Mr K. Hancock, Mr L. E. Kiek, Miss B. Tabor, Mr R. Wiseman

Membership

The membership as at 30 June 1970 stood at 110.

Meetings

October 1969. Dr Dale Paul: 'Teachers and Research'.

March 1970. Dr L. Trafford Walker: 'A Psychologist Looks at Education'.

April 1970. Dr W. C. Radford: in association with the Australian College of Education.

June 1970. Miss M. O'Donnell: 'Current Research at ACER', Mr J. Izard: 'Continuous Assessment'.

July 1970. Professor Renner (USA): 'How Research Debilitates American Education'.

September 1970. Mr R. Wiseman: 'Immigrants in SA Secondary Schools'.

It was particularly pleasing to have a visit from ACER staff. Miss O'Donnell and Mr Izard are no strangers to Adelaide, and it was pleasant to experience their efficient handling of the IMP workshop sessions. These were arranged by the Institute in association with the Junior Schools Association of Australia, assisted (financially) by the publishers, Rigby Limited. On the late afternoon and evening of their first day some forty teachers from independent junior schools (including some from the girls' schools) took part in the workshop sessions held at Scotch College Junior School. Next morning, by arrangement with the Director of Primary Education, several inspectors of schools, together with some thirty selected members of staff, visited the school for a similar purpose. In the evening both Miss O'Donnell and Mr Izard spoke to members of the Institute. Mr Izard also addressed a gathering of senior school staff at Scotch College by arrangement with the Director of Studies.

While every effort is made to secure able and interesting speakers at meetings—and the Institute has been very fortunate this year—there is a growing feeling among members that much more attention should be given to research being carried out or experiments undertaken within South Australia. A state-wide survey is in progress on research being conducted in schools and tertiary institutions. It was further resolved that future meetings, at least every other one, should be devoted to local research topics.

Personal Appointments

Members of the South Australian Institute were delighted with the appointment of one of the Vice-Presidents, Mr R. S. Coggins, to the recently created Australian Advisory Committee on Research and Development in Education. The President, Mr R. J. Gilchrist, is a member of the South Australian group appointed to assist the committee.

Visit by SAIER President

In order to acquaint country teachers with the work of ACER, arrangements are in hand for the president to visit Whyalla.

QUEENSLAND

Office Bearers

Patron The Minister for Education and Cultural Activities, the Hon. A. R. Fletcher

President Mr G. F. Berkeley

Vice-Presidents Dr J. C. Greenhalgh, Mr A. J. Nimmo, Sr Mary Teresina

Hon. Secretary Dr K. E. Tronc

Hon. Treasurer Mr C. N. Power

Executive Mr S. Reithmuller, Sr Jean Marie, Mr N. D. Alford, Mr W. J. Brown, Mr N. Hart, Mr F. R. Hoskins, Mr W. Wood

Representative to ACER 1970-3 Dr S. A. Rayner

Assistant Editor, Australian Journal of Education Dr S. A. Rayner

Hon. Auditor Mr C. E. Anstey

Membership

The financial membership of QIER in May 1970 was 197.

Newsletter Mailing List

Examination of total nominal membership (including those members who have not yet paid their dues for 1969-70) discloses the following breakdown of those to whom QIER and ACER newsletters have regularly been sent in the last year.

University staff	30
Departmental administrators, including research officers, inspectors, guidance and special education ..	32
Teachers college staff	66
Staff of state primary and secondary schools in Brisbane	99
Staff of independent primary and secondary schools in Brisbane	54
Other Queensland centres	52
Other states of Australia	8
Others	10
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	351
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In view of the rising costs involved in the production and distribution of the newsletter, it may well become necessary in the near future that the generous circulation detailed above will have to be considerably restricted, so that copies are sent to financial members only.

Meetings

During the year, five general meetings (including the annual general meeting), and six executive meetings were held. In addition, the 1969 lecture series consisted of two mathematics workshops held on consecutive evenings.

Speakers and themes of the general meetings are summarized below:

June 1969 (Annual Meeting). Address by Dr Don H. Parker: 'Schooling for What?'

July 1969. Panel: Messrs Tweedy, Ashton, and Geen, discussing recommendations arising from Graham Bartle's book *Music in Australian Schools*.

September 1969. Address by Mr Bryan Pinder: 'Current Trends in New Zealand Education'.

March 1970. Address by Dr Keith Tronc: 'Role Perceptions of the Ambitious Educator'.

April 1970. Address by Dr Brian Carss: 'Putting Educational Research into Practice'.

Public Lecture Series, 1969

On 10 and 11 September 1969 an enthusiastic group of approximately four hundred teachers participated in two seminar workshops using the IMP Kit C materials. The workshops involved two groups of one hundred teachers on each night, led by Mr John Izard and Miss Merle O'Donnell from the Australian Council for Educational Research. Assisting the workshop leaders was a team of mathematics and method lecturers from Brisbane teachers colleges, and a number of principals and teachers experienced in the use of the kit, for whom a preparatory training programme was arranged by Mr John Fitzgerald of the education department's research and curriculum branch.

The fact that so many teachers travelled to Brisbane from points as far distant as Toowoomba and south and north coast areas, to participate in the workshops along with local teachers, indicates the value of inservice experiences such as these, which aim to broaden professional perspectives.

Public Lecture Series, 1970

Encouraged by the outstanding success of the 1969 public lecture series, a subcommittee has begun planning the 1970 series. The theme of the series will once again be aimed at assisting the pri-

mary school teacher, as a result of the gratifying support that all previous primary-oriented series have received, in contrast to the poorly attended secondary-level programs. As a new social studies syllabus has just been released into schools in preparation for its adoption in 1971, it was decided to focus upon an aspect of the new syllabus, where it was felt that Queensland teachers would appreciate deeper background information. Accordingly, the theme of the 1970 series will be 'Anthropology, Aborigines and the New Social Studies Syllabus', with a team of anthropologists and a panel of aborigines providing insights into the traditional aboriginal culture, and the cultural change and conflict that has taken place with the impact of western civilization and technology.

QIER Prize

Each year the QIER offers a prize for educational research and practice. The aim of this prize is to stimulate an interest, among practising teachers and research students, in educational research with direct implications for classroom practice.

QIER Grant for Educational Research

To stimulate the undertaking of educational research and the development and evaluation of curriculum materials, the QIER decided to offer monetary grants to assist with such costs as the purchase of tests and materials, printing, mailing, duplicating, and computer hire.

It was decided that preference would be given to work not directed towards a higher degree or to work which was not part of an applicant's full-time occupation, and that a total of \$300 would be set aside for this purpose in 1970.

Life Membership

At a special meeting in March 1969 a resolution was passed that a new life membership clause be inserted in the constitution: 'Nominations for life membership may be made by any five (5) members of the Institute and shall be submitted to the Annual General Meeting. Such nominations must be approved by at least two thirds of members present at the Annual Meeting.'

At the 1969 annual meeting, the QIER bestowed the honour of its first life membership upon former president, Mr Norman Pyle.

Library

The library is at present situated at the Mt Gravatt Teachers College.

WESTERN AUSTRALIA

Office Bearers

Patron Mr H. Dettman

President Mr S. W. Woods

Vice-President Mr R. G. Peter

Hon. Secretary/Treasurer Mr B. Lyons

Hon. Auditor Mr C. Cook

Committee Members Mr N. G. Traylen, Mr L. Fletcher, Mr J. Liddlelow

Membership

Current membership is 64.

Prizes

R. G. Cameron Prize for Educational Research. This prize, sponsored by the WAIER, was awarded for 1969 to Mr I. E. Fraser.

The WAIER prizes for the best students in education and psychology for 1969 were awarded to Sister Taylor at the Claremont Teachers College and to Sister M. De Porres at the Graylands Teachers College.

Meetings

June 1969. Mr E. Nowotny: 'Recent Developments in Music Education'.

July 1969. Mr P. Tannock: 'The Development of the Role of the Commonwealth Government in Australian Education Since Federation'.

September 1969. Dr A. Morton: 'Recent Developments in Physical Education'.

October 1969. Mr G. A. Douglas: 'Scaling Public Examination Results'.

November 1969. Mr D. C. Briggs: 'Some Recent Developments in Primary Schools in Western Australia'.

April 1970. Annual General Meeting: Mr L. Fletcher: 'The Uselessness and Usefulness of Comparative Education'.

June 1970. Mr P. Deschamp: 'Architectural Design and the Barriers to Movement of the Disabled in the Community: a Problem of Education for Community Awareness'.

July 1970. Mr L. McGrath: 'From School Library to Educational Resource Centre'.

August 1970. Mr K. Gosling: 'Remedial Teaching for Reading Difficulties in Western Australian Schools'.

October 1970. Dr R. Mortlock: 'Individualization of Instruction in Mathematics—A Report on a Research Project'.

General

The Institute continued its policy of encouraging and reporting on research in education in Western Australia, and of providing members with information about educational research elsewhere. Papers and discussions were of a high standard throughout the year.

TASMANIA

Office Bearers

President Mr H. L. Dodson

Vice-President Mr M. T. Webberley

Hon. Secretary Mr N. H. Campbell

Hon. Treasurer Mr L. D. Blazely

Representative to ACER Mr H. L. Dodson

Auditor Mr J. Besier

Committee Miss C. G. Fahey, Mr K. I. Axton, Mr P. W. Hughes

Membership

The current financial membership is 52.

General Meetings

Miss E. J. Smith: 'Some Aspects of a Survey of Beginning Teachers'.

Hobart Teachers College Students

Miss L. Connelly: 'Education and World Problems'.

Mrs V. Oates: 'An Investigation into the Difference in Educational Achievement of Selected Groups of Urban and Rural Third Year Students at High School'.

Mrs A. McDonald: 'A Survey of the Problems of Maladjusted Children in Kindergarten, Infant and Primary School'.

Mr O. W. Reid: 'Short Research Projects in SE Asia'.

Mr P. Morrow: 'Research in Special Education in the USA'.

Executive Meetings

There have been three meetings of the executive to consider the year's programme and the activities for 1969-70.

Prizes

1. *The H. T. Parker Memorial Library*. Payments have been made to the Hobart Teachers College for the purpose of establishing an H. T. Parker Memorial Library. 2. *The G. V. Brooks Prize*. Mrs A. Pilcher, Launceston Teachers College.

Annual Institute Address

Professor B. Biddle, Monash University, delivered the 1969 annual Institute address in Hobart. The title of the address was 'Research into Aspects of Classroom Climate'.

Australian Association for Research in Education

The Institute assisted the president to attend a meeting in Melbourne to take the first steps towards the formation of an AARE. It was decided at this meeting that such an association should be formed.