

# ACER NEWSLETTER NO 32 APRIL 1978

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## ACER Appoints Two Assistant Directors

After advertising across Australia, Britain, Europe and the United States, the Council received many applications from scholars in different parts of the world for the two positions of Assistant Director. From these applicants two have been selected to fill positions in the areas of Measurement and Evaluation and the Social Foundations of Education. The appointment of these two senior members of staff will enable the Council to proceed with the re-formation of its program of research and development.



Cunningham Library - ACER



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John Izard has commenced duties as Assistant Director, in the area of Measurement and Evaluation. Prior to taking up his position at ACER he was a Head of Department and a Course Director at the State College of Victoria at Coburg.

John trained as a primary teacher at Geelong Teachers College and proceeded to studies for BSc at University of Melbourne on an extended studentship. While teaching in Victorian primary schools he gained the VIER G.S. Browne Prize for Educational Practice in 1963 for a report evaluating mathematics teaching materials which he had devised. In 1964 he won the prize a second time for a report evaluating an approach to teaching science in the primary classroom. He was seconded to ACER from the Victorian Education Department on two occasions, first as Executive Officer of the Individual Mathematics Programme Project (1965-67), and secondly as a Senior Research Officer in the test research and development area with responsibilities including development of new mathematics tests for the NSW Department of Education Primary Evaluation Project and for the AM Mathematics Tests (1969-70). During these secondments he was involved in in-service activities with all Australian states and the ACT.

Subsequently he taught at tertiary level in both pre-service and in-service teacher education courses and developed teaching materials on educational measurement and evaluation. ACER published some of these materials in a work book *Construction and Analysis of Classroom Tests* in 1977.

Mr Izard's studies for BEd (Melbourne) and MEd (Monash) have reflected his interests in research into learning processes, measurement problems and curriculum evaluation, and he is currently preparing his PhD thesis for submission

to La Trobe University. His research interests include criterion referenced testing, and the measurement of spatial concepts.



Dr Trevor H. Williams of Canberra, has accepted the appointment as Assistant Director, in the area of the Social Foundations of Education. Dr Williams comes to the ACER from a position of Senior Research Fellow in the Department of Sociology, the Research School of Social Sciences at the Australian National University. He was born in Victoria and attended North Williamstown Primary School and Williamstown High School before moving to Western Australia where he completed his secondary and tertiary education; including study for a BSc degree in Biology and a BA in Psychology. Subsequently he taught in secondary schools in Western Australia for four years and worked with the Commonwealth Office of Education in Sydney for three years prior to study at the University of Toronto (OISE) for an MA (Educa-

tional Administration) and a PhD (Sociology of Education). He worked for two years in the Department of Educational Foundations at the Memorial University of Newfoundland and for two years at the National Institute of Education Washington. At the ANU he has been working on the study of social mobility with emphasis on educational and economic aspects. Dr Williams is particularly interested in studies of career education, the problems of unemployed youth and developments in TAFE institutions.

### Book Lists Available

ACER has prepared three booklists which will be of assistance to the educational community, librarians in particular.

#### NFER Book List

The first edition of this list includes brief descriptions of all NFER Publishing Company titles which are held in stock at ACER and titles only of all other NFER books. Information on the latter can be supplied on request and orders for them will be filled by importing the items.

*ACER is the Australian distributor for NFER (National Foundation for Educational Research)*

NFER Book List (No. 1 February 1978) is arranged in topic groupings, with author and title indexes also available. The list has been sent to many librarians but any interested readers may request a copy.

#### ACER Books: An Annotated List

This list gives brief details of all ACER titles still in print. As it is arranged alphabetically by title, an author index has been prepared to enhance its usefulness. Copies of the list and index are available free on request.

#### Sources of Test Information

This list was prepared to assist people who are setting up test libraries or test information centres at various institutions. The list includes standard references, directories and annotated indexes. Copies of the list may be had on application to Psychological Services, ACER. The titles listed are not available from ACER stocks.

#### ACER Annotated Catalogue

The *ACER Annotated Catalogue of Educational Tests and Materials* contains detailed descriptions of items carried in stock at ACER to meet various requirements of educationists throughout Australia.

### Early school leaving in Australia

M.J. Rosier

At an early stage in the development of systems of formal education, a period of compulsory schooling was defined. At that early stage, few young persons continued beyond the age-limit for compulsory schooling. Over the last few decades, there has been a general tendency for the retentivity in the post-compulsory age-levels to increase, where the term 'retentivity' is used to define the percentage of young persons at a given age-level in the population who remain at school.

This article provides some results from the large ACER study reported in *Early school leavers in Australia\**. The aim of the study was to investigate retentivity at age 16 in Australia, and to examine characteristics differentiating those who left school from those who remained. This school termination decision has important long-term consequences for the future career of an individual, and divides Australian adolescent society into two separate groups with essentially different options for the future education and occupation of their members.

There was an important practical reason for selecting the age-16 level for this investigation. The sample used for the collection of data from 16-year-old persons was based on the sample of 14-year-old students from whom data were collected in 1970 as part of a study co-ordinated by the International Association for the Evaluation of Educational Achievement (IEA). This study — the IEA Science Project — was a large cross-national investigation of science achievement and associated explanatory factors\*\*.

The study sought to obtain answers to the following four key questions. What are the important environmental and personal factors which differentiate between the 16-year-old Australian students and leavers? What relationships exist between these factors? To what extent do the effects of these factors differ between males and females? To what extent do the effects differ across the six States?

#### Conceptual framework

Underlying the study was a conceptual framework. It was designed to be comprehensive, covering the major areas of a young person's experience which were relevant to his decision to remain at school or to leave. At the same time it was desirable to retain a simple structure, from which a causal model could be

derived and tested. The dual aims of comprehensiveness and simplicity were accomplished by means of a conceptual framework consisting of 'blocks' of explanatory factors, where each block contained a set of related factors occupying the same stage in a temporal sequence.

Four blocks of factors were proposed; family environment factors, school environments factors, age-14 personal factors, and age-16 personal factors. These four blocks of factors were considered to be in a temporal sequence, with later blocks being causally dependent on earlier ones. Since it was also considered important to identify effects due to the sex of a young person, this factor was incorporated into the conceptual framework, at the earliest point in the temporal sequence.

#### Data collection and analysis strategy

Data were collected for the study on two occasions. Different sets of instruments were used on each occasion. The first was the set of tests, scales and questionnaires used in the IEA Science Project in 1970 at the Population II (14-year-old) level. The second set, developed specifically for this study, was administered in 1972, by which time the respondents were of age 16. It was possible to test the 16-year-old students by means of testing programs administered in their schools. For the 16-year-old leavers, it was necessary to mail questionnaires to their home addresses.

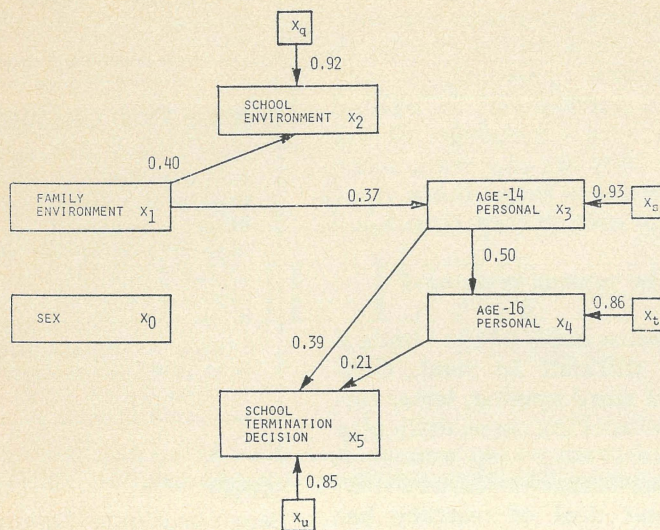
In investigating the four key questions, the analysis was conducted in two stages. At the first stage — the within-blocks analysis — each of the four blocks of factors was examined separately. Within each block, it was possible to identify the important factors, and also to examine their relative importance.

For the second stage — the between-blocks analysis — a causal model was specified, which was derived from the conceptual framework. A single composite variable was formed to represent each of the four blocks of factors. Path analysis was employed to investigate the effects of each of these composite variables on each other and on the criterion. The sex of a young person was examined by including it as a variable in the model. State differences were examined by conducting the analyses separately in each State.

For each State, a causal model was estimated in which paths were omitted where the path coefficients were close to zero.

Factors external to the model have been represented by the 'disturbance' terms  $X_q$ ,  $X_s$ ,  $X_t$ , and  $X_u$ . The model for Victoria is used as an example.

ESTIMATED CAUSAL MODEL FOR VICTORIA



The variable Sex had no significant link with other variables in the model. Although the mean retentivity was higher for males than females, this difference was not explained by the factors included in this study. Explanations should be sought in terms of wider societal attitudes.

The variable Age-14 Personal had the strongest direct effect on the criterion. The variable Age-16 Personal also had a strong direct effect on the criterion, and was in turn strongly influenced by Age-14 Personal.

Family Environment had a strong effect on School Environment. That is, it was shown that the level of a school environment depended, in this study, on the family environment of the students attending school. It is important to note that the effect of School Environment was not transmitted to the other variables in the causal sequence or to the criterion. Although the variable Family Environment did not exert a significant influence through the School Environment, it has a strong effect on the variable Age-14 Personal. However it did not have a significant influence on the variable Age-16 Personal.

In summary, the examination of the values of the estimated path coefficients for the causal model for Victoria showed that school-related personal characteristics at age 14 had the strongest direct effect on the criterion. These characteristics were strongly influenced by the family environment of a young person. Although the family environment had a strong influence on the

school environment, these effects were not transmitted to subsequent factors or the school termination decision.

### Some implications for educational policies

In conclusion, some implications of this study for educational policies are suggested. This study was undertaken within the context of the trend in Australia and other developed countries for a larger proportion of adolescents to remain at school. The data were collected before the issue of school retentivity became more urgent in the mid-1970s as a result of increasing levels of unemployment.

If it were desired to increase retentivity levels, guidance for the development of effective policies might be obtained from the causal model. The family and school environment factors, located at the earlier stages of the causal model, were largely non-malleable structural factors and which would not be amenable to change by educational policies. They were also the factors with lower net influence on a young person's decision to remain at school. In contrast, the personal factors at ages 14 to 16 included in this study were predominantly attitudinal. As well as having a stronger influence on the criterion, these factors would be amenable to change, although appropriate techniques for changing these attitudes would need to be developed.

Since the personal factors at age 14 had the strongest direct effect on the criterion, policies designed to encourage young persons to remain at school would have their strongest effect if applied in association with these factors. The causal model showed that the factors at age 16 were very strongly influenced by

those at age 14. This suggested that action to increase retentivity would be more effective if initiated at earlier stages of a young person's schooling.

The aim of this study was to explore the main areas associated with the decision of a 16-year-old to remain at school or to leave — a decision with important consequences for his future. The relationships which have been identified are relevant to current major issues concerning the general trend for adolescents to remain longer at school — and the high level of unemployment among young persons. Hopefully, this study can contribute towards the deeper understanding that is necessary in order to deal adequately with these pressing problems facing both those involved in education and the community in general.

\* Malcolm J. Rosier. *Early school leavers in Australia*. Stockholm: Almqvist and Wiksell. Hawthorn: ACER, 1978.

\*\* See ACER Newsletter Number 18, September 1973.

## Seven-Year-Olds: Talking and Writing

William Renehan

What do children in Grade 2 know about writing? Not only, how competently do they write stories, descriptions, personal narratives, and so on; but also, how do they learn what is writable, or how language functions somewhat differently in writing from the way it does in talk? These were the sorts of questions addressed in a study undertaken at ACER with the support of the Education Department of Victoria and the then Australian Advisory Committee on Research and Development in Education. Results from the Grade 2 part of the study are reported in the recent ACER publication, *Seven-year-olds: Talking and Writing*. In all, writing was collected and tape recordings made with 89 Grade 2 children. The report focuses, however, on the language use of 15 of these children, each from a different school.

### Children in discussion

The report refers to, and quotes at length from transcripts of, discussions between children in small groups with a researcher. It looks at the roles children assume and the way they allot roles to one another and to the adult. It discusses the functions their contributions express and notes in particular a tension between role-establishment functions

and those involved in using conversation to recall experience so that it might be shared and savoured. It is noted that children vary in their knowledge of the ground rules of such small-group discussions and that in some instances they use the initial phase of a discussion to find out what ground rules are operating. Knowledge of these rules is displayed, for example, in children's ability to introduce and develop themes and is particularly evident in the way some children link themes and back-reference them. Many of the children in the sample, given time to find purposes beyond those of self-presentation or of obliging the researcher, reach a level of considerable seriousness as they discuss and evaluate the events of their own lives.

#### Sorting out the functions of writing

Seven-and-a-half-year-old Jane wrote as follows:

*Once upon a time there was a lion. he was big and always chased the rabbits and hares. he was big with orange fur under its neck. So be careful and look out for the lion. he might eat you.*

Although this piece of writing is not a story, in the sense that it is not narrative, it is clear that Jane intended it to entertain; it is also clear that she had the competence to achieve that end: Jane already knows how to express make-believe in writing.

Graeme, who lived on a farm, is a different case. Within the framework of a story he wove threads of ego-centric fiction and of experience remembered:

*One morning three girls got out of bed and had breakfast. then they went to see the cows then they went to see the sheep and the sheep had lots of wool and we had to shear the sheep and while they were singing flick go the shears boys. and it was hard getting the sheep in on the horses and we rode our bikes down to the paddocks.*

We collected other writing from Graeme that is in this respect similar: what begins as fiction becomes, finally, personal reminiscence. Jane also wrote about her own experience but managed to keep these different functions of writing separate.

While Graeme did not seem to experience confusion about what is writable there were others in the sample who did. One child, writing about a photograph of three girls, seemed not to be sure what function his writing was serving. His uncertainty was expressed in textual contradictions, switches in levels of tentativeness, and in a somewhat tangled presentation of sub-themes. Yet the same child wrote a delight-

ful and coherent piece of personal narrative. In general, it might be stated that Grade 2 children have difficulty in writing an extended hypothesis.

What does seem to be the case is that these young children find it easier to express temporal sequence and other relationships clearly, to develop themes coherently, in narrative, and particularly, in writing from their own experience. At the same time they are exploring, some more deliberately than others, what can be done with written language.

#### Learning the writing system of English

At first glance some of the Grade 2 writing is difficult to read. Conventions of word spacing, letter formation, and spelling cause difficulty for some of these young writers. A closer examination reveals, however, that a great deal of learning has already taken place. Letter formation errors, including reversals, are limited to a few children and to only one or two letters in each case. Donald, for example, sometimes writes *d* for *b*, but never *b* for *d*. Non-standard spellings are never random; in many cases they represent over-generalizations of known spellings (e.g. *in sted* for *instead*); in others they reveal attention to contrasts between phoneme pairs that are ignored or coded otherwise in standard spelling (e.g. *noze* for *nose*), or attention to vocalic glides which are not optional and therefore conventionally ignored (e.g. the onset of voicing as an element distinct from articulation of the lateral/l/in *sleep*, spelt *selep*). Rather than being taken as evidence of learning failure, these spelling errors ought to be regarded as indications that the child is actively engaged in the learning process.

#### Implications of the research

The report suggests ways in which teachers might use tapes of children's discussions and pieces of their writing for making appraisals of their language use, and as a means for understanding what problems with language the child is attempting to solve. It also suggests that the conditions that facilitate children's learning to use language include at least the following: situations which give time and freedom for conversation to reach seriousness; situations which allow their writing to be directed to purposes that are, or that they can make, their own. The report argues for nurture rather than for force-feeding.

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#### New From ACER

##### Books

*Seven-year-olds: Talking and Writing* by William Renehan. No. 100 in the ACER Research Series. \$10.00

##### Reports

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