

RESEARCHING TEACHING

by

MICHAEL J. DUNKIN

Revised Edition

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Publisher's note

This book is published by AARE in the interests of documenting and making known aspects of the history of educational research in Australia.

The text of the book is as supplied by the author.

The views expressed are those of the author and do not necessarily represent those of AARE.

DEDICATION

This work is dedicated to all those
who gave me encouragement and support in
my research work, especially

Jack Campbell,

Ray Debus,

Bill Bassett,

Alan Crane,

Bruce Biddle,

Ray Adams,

Hugh Philp

and

Nate Gage,

whose example
and encouragement
were inspiring

and

to my colleagues,

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to research projects described here.

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PREFACE

One day early in 2008 Jon Michie said to me, "Mick, what did you do?" That was all I needed to plunge into this account of my life as a researcher in education. I enjoyed that life tremendously and apparently made a worthwhile contribution to empirically based knowledge about teaching and teacher education. Needless to say, I enjoyed reliving it all per medium of this account. There was, however, more to it than that, for as I tracked back through the past I became aware of trends, changes and mere occurrences whose significance I did not fully realise on the way.

It would be tragic if fashions did not lead at all to progress, but the desire to be fashionable was not the motive behind my pursuit of the extraordinarily demanding and often tedious exploration of teacher and student behaviour in classrooms. In the late 1950s and early 1960s there grew a realisation that only weak methods had been used in getting to the crux of life in classrooms. To know about teaching and learning in schools or anywhere, for that matter, one needed to watch it and interpret one's observations in terms of conceptual structures that were systematic, not haphazard. If such structures were unavailable immediately, then they had to be found either in theory or by immersing oneself in the data in the spirit of the explorer entering unknown territory and mapping it, or the biologist striving to develop a taxonomy of species. That kind of exhausting, stimulating, "eureka" dotted inquiry occurred more and more often during the 1950s and 1960s in research in classrooms and the yield of category systems became prodigious. As a result of their application much was learnt systematically about behaviour in classrooms.

By the 1970s, however, it was realised that there was much, much more to be known about teaching. In particular, it seemed that the world was quite deprived of evidence about teachers' thought - its processes and its content. How could the enormous availability of data about observable classroom events be given full meaning in the absence of knowledge about teachers' own conceptual structures and content? What did teachers think they were doing? How satisfied were they that they were doing what they intended? Did they know about its effects upon students? Where did the teachers' knowledge of the substantive material they were teaching fit? How were accepted theories of learning by students accommodated in the teacher's planning? Were there theories implicit in teachers' post-lesson explanations of their recent efforts? All that classroom observation was worthwhile but it was not nearly enough. Researching teaching was much more like observing life than observing tennis!

There are so many different issues that I could mention here about research on teaching. How should teaching be evaluated? How should it be improved? Does teaching vary across different cultures? Is teaching girls different from teaching boys and does it need to be? To find all the answers we seek, do we need to focus on individual students in classrooms or is it enough to concentrate on the class as a whole or, perhaps, sub-groups within it?

And then there is the professional education of intending teachers. How should the knowledge we might learn from researching all the types of questions mentioned above

be incorporated into teacher education programs? And how should we research those issues? Does politics enter into all this?

I mention all these matters to illustrate the nature of the concerns I faced in my career and to indicate the ways in which I expended my academic energies, apart from the teaching, administration and community service I enjoyed. My activities and interests changed over those 41+ wonderful years. I am confident the discerning reader will identify those developments and not be too distracted by the stories with which I have tried to garnish the whole.

There is just one more matter. How did this title eventuate? Well, perhaps the most highly valued work I ever did was to write a book with Bruce Biddle. The title of that book was *The Study of Teaching*. I have used that title as the basis of the title of this one but I have changed the mood from the passive to the active. This book is about doing it, and reviewing it! I did both.

I was inclined to add to the title a thought or two. In the *Postscript* to our book, Bruce and I mentioned "*the exciting challenge, the joy of the hunt that accompanies research into this fascinating field*" (Dunkin & Biddle, 1974, p. 447) and so I thought of adding the words, *exciting challenge*. But then I thought of the other side of researching teaching that my colleagues and I sometimes experienced. That led me to toy with the idea of adding further the words *or frustrating obsession*. Be assured, one can sometimes become quite obsessive and utterly frustrated while conducting and reviewing research on teaching. Beware if you are tempted!

This revised edition has been prepared following advice that the Australian Association for Research in Education (AARE) intends to publish this work on its website. That encouraging news has spurred me to make refinements to the original edition published by me in 2009. The revisions have included corrections of errors, deletions of a few small sections of the original, elaborations here and there that seemed desirable, and some substantial rewriting of Chapter 5, concerned with my research at the University of New South Wales.

Chapter 1: Beginnings

When I was "taught" history at school in the 1940s and 50s, there was very little research involved. I was told a little that I needed to know by the teacher and I memorised the rest from the textbook. Dramatic phrases such as "*with his iron fist thundering on the benches*" pertaining to Bismark, were memorised by almost everyone at exam time and remain with me still. Homework involved "swatting up" on a chapter of the textbook and regurgitating it in class during the next "lesson". One lesson later, the essays were returned with scores but no comments. And so it went on week after week. The teacher seemed to know no more than the students and to be merely a director *cum* assessor. In a school at which the library was a few bookcases that were always kept locked and from which nothing was ever borrowed, research beyond the textbook was impossible. Moreover, using libraries elsewhere was almost unheard of. As exams approached, questions from earlier years' exam papers were set for practice, and so the process continued. I am amazed that I ever did well in history and that I grew to enjoy it. Yet I became dux of the school in history and obtained an honours grade in the state-wide examination and a book prize at the end.¹ My ambition grew to becoming a high school history teacher!

After I left school and went to university I was often asked to write essays and was provided with reading lists to consult. Few if any of the items in the list were original sources. Indeed, the items on the list were usually reports of discoveries and interpretations by established scholars in that field. I was usually asked to mine these secondary sources for "truths" that bore upon the topic and integrate them to debate an issue. However, that is not the type of research I want to write about here. That type of research almost always involved looking up other people's writings on a particular topic and then organising those discoveries as they bore upon my interpretation of the task. That does not mean that I was not being a good scholar. Those tasks were carefully designed to promote my learning and test it. They were designed by my teachers to encourage me to acquaint myself with the literature and develop skills in answering questions about it. Effective as they might have been for their purposes, they almost always involved the learner in relying on second or even third hand sources. I did not ever have a chance to interview Bismark, Napoleon, Luther or any of the other leading figures in modern European history. Even in chemistry and physics, I seldom came closer to first hand research than to watching teachers demonstrating in the laboratory.

In contrast, in this work I am focussing partly on my attempts at *first-level* inquiry, in which I alone, or with colleagues, asked the questions, designed the inquiry, gathered the already known facts, participated at the "coalface" in the data gathering, conducted the analyses, made the interpretations, reached the conclusions and wrote the reports. However, often in my career I focussed on the original reports by other authors and made them my data. If you like, that was *second-level* inquiry. In that, I was interested in *synthesising* the work of first-level researchers to see the extent to which there was agreement among their findings. The crucial question here concerned the extent to which claims to generalisable knowledge about the phenomena several authors had independently studied could be supported empirically. Finally, there is the *third-level* work I did in *evaluating* the products of the reviewers. Is it possible that two different scholars reviewing the same body of original research reports might disagree about the achievements of that body? This would be wondering about the *credibility* of scholars such as those who produce entries for encyclopedias, write textbooks and even advise policy makers.

My first encounter with data-based education research was an assignment in an Education I Distinction course as part of my BA at the University of Sydney in 1958. Dr W. J. (Jack) Campbell was the Senior Lecturer in charge of that course. The task was to choose a

¹ P. Schmidt (1951). *Hitler's Interpreter*. London: Heinemann.

research topic in education, investigate it empirically and write a report on it. Now I was not entirely a newcomer to the study of education. After all, I was a qualified schoolteacher who had successfully completed two years of teacher education at Sydney Teachers' College and had later been awarded a credit in Psychology I at the university. In this Education Distinction course, my colleagues and I had been treated to details of the Robertson Study, a pre-television study of a rural community, focussing on the impact that the imminent arrival of free-to-air TV would have on the community, especially on its children's education. That study would subsequently be reported in Campbell's book, *Growing Up in Karrabee* (1963). Indeed, I had been full-time employed in secondary school teaching for over two years. I ought to have been brimming with questions worthy of investigation. However, I was not.

I finally arrived at a topic that interested me by browsing through journal articles in the area of child growth and development. I came across the report of a study of children's concepts of time and was fascinated that children in the 1950s could believe that their grandparents were alive in the days of Captain Cook or had problems knowing which comes first, tomorrow or yesterday. Accordingly, I adopted the instrument that the author of the report had used, made appropriate modifications to it and applied it to boys in the primary grades of Croydon Park Central School, where I taught in the junior secondary grades. Lo and behold, I became enthralled by the data because they more or less supported the original author's findings. Boys of different age groups made systematically different responses to the types of questions about time put to them. Older boys knew more, that is, their concepts of time were developmentally superior to younger boys' concepts, both in the original author's context in England and in my context in Australia. Of course, questions concerning the representativeness of the samples of the two studies were raised and statistical methods were applied to test the likelihood that such results could have occurred by sheer chance. I was hooked! At the end of that year I was awarded a distinction and so concluded that my initial attempts had been very successful.

The following year, during Education II Distinction, we not only heard about the Robertson Study, but also became part of it. Each member of the class was to contribute to the study by researching a topic and some members of the course actually went to Robertson to assist in data gathering. As an evening student engaged in full-time employment, I was not able to take time off to do that and so others gathered the data for my part of the project. It was a sociometric study of interpersonal relationships among the children at Robertson Public School. Sociometry involves asking questions such as, "If you were having a birthday party, which boy/girl in this class would you most want to attend?" or "If you were asked who would make the best prefect in your class, who would you choose?" Such information collected from the individuals of a group such as a school class permits maps to be drawn tracing the interpersonal relationships indicated by the preferences of its members. Social cliques, friendship groups, isolates and stars can thus be identified and the implications of these for teaching and learning can be considered. Once again I was fascinated. At the end of that year, I was again passed with distinction, was ranked first in the class and won the Evening Students Prize for Education II!

Having done well in those Education Distinction courses, I progressed to the Honours Year in Education. There were two major components of this program. The most important was the thesis, followed by the essay. There were also subjects in Research Methods in Education, the History of Universities, and Twentieth Century Thought in Education. Full-time students would have one year to complete this program. Part-time students like me could take two years, except that because I had had a disastrous first year in university at the age of 16 for most of it, in 1953, I had run out of time and would have to complete the whole lot in one year! The two years at Sydney Teachers College did not count. The Head

of the Department of Education would not support my request for an extension, dismissing me with the cruelist throwaway line I would ever hear: *“You’re young and vigorous; you should be able to handle it.”*

I started Education III, the Honours Year, with an interest in carving out a thesis topic in the area of the teaching of poetry, the area of teaching I enjoyed most. Early discussions with my supervisor, Dr Ray Debus, were supportive but I could not find a way to progress along that route to my satisfaction and as time passed, I became more and more worried and anxious. English literature was my first love at that stage. Indeed, I had completed a major in English, having done one more subject than I needed under the requirements for the BA degree with honours. Then the proverbial penny dropped. I would write my thesis on the educational ideas of George Bernard Shaw. Shaw's play "Misalliance", was one of the readings I was studying during the 20th Century Thought in Education course. The title quickly became “Influences upon the Educational Thought of George Bernard Shaw”. I loved Shaw’s writings at that stage and so my thesis would be a joy. Moreover, I could save lots of time and simplify the matter of data gathering by spending most of my life that year in the stacks of the Fisher Library at the University of Sydney. For the essay topic I chose the educational thought of H.G. Wells, whose writings I had also enjoyed. My dear sister, Pauline Lewis, typed both. My field at this stage was clearly the history of educational thought.

The result was that I was awarded first class honours in Education. The degree was conferred on 4 May, 1961, in the Great Hall at the University of Sydney. I graduated in the company of such future luminaries as Clive James (2nd Class Honours in English), and Peter Sheehan (1st Class Honours in Psychology), future Chairman of the Australian Research Council and second Vice-Chancellor of the Australian Catholic University. I had topped the year in Education III, the Honours Year, even though my two fellow graduands, as evening students who had not had a disastrous first year as full-timers, had been allowed two years to complete it. Believe me, I was feeling quite chuffed by this success under adversity and began to think about the future. As for the significance of these early research adventures, I suppose their main value was to increase my own knowledge and understanding and as a result qualify me to pursue life as an academic. I seriously doubt that anyone, anywhere, benefited directly as a result of those projects. Indeed, the examiners and I might have been the only people on earth who had read any of them. Before I put my newly won skills to the test, however, I needed a rest.

The rest was two pronged. I was offered positions as Teaching Fellow in Education at the University of Sydney and resident tutor in Psychology at St. John’s College within the grounds of the university, for the year 1961. I was able to accept both positions on leave from the New South Wales Department of Education, with which I had been employed as an Assistant Teacher for five years. Early that year, I discussed my future with Professor Bill Connell, who had strong connections with the College of Education at the University of Illinois, USA. A considerable number of Australian scholars in Education had gone on to study for doctorates there, including Ray Debus, my former supervisor. In time I was offered a Fellowship at Illinois. However, by then I was well on my way overland across Asia with the Asian Scientific and Goodwill Expedition (see Dunkin, 2005).

Chapter 2: Research for the PhD

Eventually, I turned down the offer from Illinois and, early in 1963, took up positions as lecturer at Armidale Teachers' College and part-time lecturer at the University of New England, also in Armidale. As well as travelling overland to London in 1962, I spent a couple of months working as a Supply Teacher in the employ of London County Council and falling in love with Iris Hardy. Not long after my arrival in Armidale, now married to Iris with baby Sally Ann on the way, I was visited by Jack Campbell. He was on his way from Sydney to take up the position of Reader in the Department of Education at the University of Queensland in Brisbane. Jack suggested that I apply for an Australian Commonwealth Post-Graduate Scholarship to continue my studies with him there. He had just returned from sabbatical leave, during which he had worked at the University of Kansas and the University of Illinois and was brimming with ideas for research to initiate in his new job. Enthused by him and excited by the prospect of becoming a full-time researcher under his supervision, I applied successfully and, with leave again generously granted by the NSW Public Service Board, Iris, Sally Ann and I took up residence in Brisbane early in 1964. I was to pursue studies towards the degree of Doctor of Philosophy in Education. The University of Queensland had awarded only about half-a-dozen doctorates in Education by that time, and so I felt a little like a pioneer. While there I became a tutor in Education and had a chance to participate in distance education when an experiment in tutorials with students in several regional centres in Queensland using landline telephone communication occurred. As I write this 45 years later, with all the benefits of personal computers and the internet, I realise just how far educational technology has progressed since those times.

After three years of hard slog, but with lots of help from my colleagues and loved ones, especially Jack Campbell and Iris, I completed my doctorate, which was conferred at a ceremony in the Brisbane Town Hall on 26 April, 1967, the day after ANZAC Day. That ceremony was especially impressive because I was the first one called to the dais from among some hundreds of graduands. As we had arrived late after having driven a long way, I missed some the instructions for the ceremony and was caught by surprise. I took the wrong route back to my seat after doffing my Tudor bonnet and shaking the Chancellor's hand, and so missed out on collecting my testamur (the certificate of the award of the degree). Fortunately, I was able to collect it after the ceremony. By that time my thesis had been converted into two publications in press, with some others to follow. I had completed my basic qualifications as a researcher in education, but my field was no longer the history of educational thought. It had become the social psychology of teaching.

My colleagues at UQ gave me a great deal of support over the three years of our stay in Brisbane. Professor Bill Bassett, the Head of the Department of Education, formally became my supervisor, even though I was expecting it would be Jack Campbell. Ray Adams, a New Zealander, arrived to take up a Senior Lectureship at about that time. He had come from the University of Missouri where he had recently completed his doctorate researching the sociology of the classroom in what was possibly the first project to use videotape recordings of classroom events. Ray gave me much advice and support. It was during a course Ray taught on research methods that I met Neil Baumgart, who was later to become my colleague at Macquarie University in Sydney in 1968.

Early in 1965, Bruce Biddle, from the University of Missouri, arrived with his family on a year's sabbatical. That marked the beginning of the lovely friendship that proved very beneficial to me. Bruce had become the leading international figure in "role theory", which was to become an important ingredient in my research. He came to Queensland to direct an international study of teacher roles, with samples drawn from Queensland, New Zealand, England and the USA. I was able to supplement my income by interviewing about 50

teachers for that study. I learned much from Bruce during his visit and much more was to follow.

The title of my PhD thesis was *Some Determinants of Teacher Warmth and Directiveness* (Dunkin, 1966a). The research involved the cooperation of a sample of male, primary, state-school teachers in Queensland. Male teachers were not uncommon in Queensland

VARSIITY SCORES ON LAND-LINE

New teaching era opened by lecture to country cities

A LECTURE delivered in Brisbane last night and heard up to 250 miles away, began a new era in education and scored a notable first for Queensland University.

LAND-LINE LECTURE for external students of the Queensland University at Bundaberg, Gympie, and Maryborough when the university inaugurated its new experimental teaching service last night. Around the microphone at St. Lucia were (from left): Messrs M. J. Dunkin (tutor in education), Ross Thomas (tutor in education), and students Carol Brown (Auchenflower) and Mrs. Dorothy Denniss (St. Lucia).

Discussion
*Later, in an Education Department room, Mr. Ross Thomas chaired a discussion between students in the four centres. The discussion went over clearly, and with no technical hitches.

primary schools in those days and the selection of just one sex meant that sample size could be much smaller than if both sexes had been included. The number participating ranged from 161 to 7 in the five phases of the study and the focus of the information gathered from those teachers and their pupils was on two aspects of teachers' behaviour towards their students: *warmth* and *directiveness*. I wanted to discover why teachers varied in the degrees of warmth and directiveness of their relationships with pupils. Other research over the years had suggested that teacher warmth and directiveness were important elements of successful teaching (Dunkin & Biddle, 1974). In particular, warmth and directiveness were thought to affect pupils' motivation to learn and, consequently, their success in acquiring knowledge, attitudes and skills considered important in school achievement. However, little was known

During a particular lesson, George, whom you regard as a generally satisfactory student, has caused several distractions in class routine by talking excitedly to other children. You are in the process of drawing the lesson to a close when George does it again.

Response alternatives:

- i. Express interest in George's excitement, but ask him to postpone his conversation.*
- ii. Express disappointment with George's behavior, and warn him not to interrupt again.*
- iii. Express interest in George's excitement, and ask him to tell the class about it.*
- iv. Reprimand George, and tell him to stay in after school to write an imposition.*

about how teachers came to differ from one another in their possession of the two attributes. My research was an exploration of these differences and possible explanations of them. Understanding these matters would constitute important progress in the study of the social psychology of teaching and could have valuable outcomes in the selection, education and career progress of teachers.

Most of the variables were measured with psychometric scales (paper and pencil devices designed to measure psychological traits) that I developed from sets of questions about teachers' thoughts concerning classroom situations considered capable of eliciting responses that were more or less warm or directive. I concocted 41 situations that might arise in classrooms and four alternative responses that teachers might make to each of them. The responses were designed to reflect a range of warmth or directiveness. For example, the first one was a "warmth" item and was as above.

Some psychological traits, such as personality needs, were measured with a standardised instrument, the Edwards Personal Preference Schedule (EPPS). This instrument was designed as a quick and convenient measure of 15 *manifest personality needs* devised by Murray (1938). They were:

<i>Achievement</i>	<i>Affiliation</i>	<i>Nurturance</i>
<i>Deference</i>	<i>Intracception</i>	<i>Change</i>
<i>Order</i>	<i>Succorance</i>	<i>Endurance</i>
<i>Exhibition</i>	<i>Dominance</i>	<i>Heterosexuality</i>
<i>Autonomy</i>	<i>Abasement</i>	<i>Aggression</i>

In the context of my study, these variables could be regarded as predispositions to behave in some ways rather than others. A teacher who scored highly on *Nurturance* would have been regarded as having a strong inclination to behave warmly in interactions with students, while one who scored highly on *Dominance* would seem to have a strong tendency to act in very directive ways towards them. Such inclinations might result in warmth or directiveness actually being expressed towards students or not, depending on other so-called psychological *forces* acting upon a teacher. Essentially, however, manifest personality needs are general tendencies to behave in certain ways whatever the context. Included here were needs that might render teachers more or less likely to be affected by psychological forces exerted by others. *Autonomy*, *Deference*, and *Succorance* were used in combination to identify teachers who were more *other-oriented* or more *self-oriented*.

The psychological forces which teachers are most likely to experience at work emanate mainly from students, parents, colleagues, school principals and the like. Teachers vary in the degrees to which they are aware of pressures arising from the expectations of others. However, they are likely to have general ideas about ways in which pupils, parents, colleagues and principals expect them to behave. Consequently, the teachers in my study were asked to indicate their perceptions of the responses those people would want them to make. This information made it possible to inquire into agreements and disagreements among psychological forces bearing upon the teachers. Concepts of *role conflict* and *role congruence* could then be applied and likely outcomes concerning teacher behaviour could be studied.

Significant others, those who may apply pressure upon teachers, vary in their power over latter. They vary in their ability to apply sanctions for conformity and nonconformity. But they also vary in their ability to find out the degree to which teachers conform. Thus, *social power* and *observability* had to be considered in predicting to whom teachers were more likely to conform.

When demographic facts, such as age, professional qualifications and experience, were obtained, I had almost all of the information required for my research and the arduous process of analysis could begin. During the sampling and data gathering stages I received welcome help from colleagues in the Department of Education at the University of Queensland. Wonderful Iris, who was fully occupied with growing numbers of babies, still found time to help me in the data analysis process. She tells the story of my obsessive demand that square roots be given to the fourth decimal place, after I had discovered that the Monromatic electric calculating machine I had been using had a defect that produced wrong answers! These were the days before desktop, laptop and notebook computers. The university had just one large mainframe computer and access to that took much time and preparation. Midnight oil was often burnt over months doing what could now be done in a day!

I began work in February, 1964, and submitted my thesis in October, 1966. My PhD was approved just before Christmas and no revisions were required. The three examiners were my actual supervisor, the recently promoted Professor Jack Campbell, a Professor Harding from Bedford College in the University of London and Professor Stuart Jones, from the College of Education of the University of Illinois. The last claimed that my thesis would have been rated in the top 10 percent at his institution, where I had initially hoped to do my PhD. The hypotheses tested in the study are shown in Figure 2:1

Hypothesis I (a) Teachers who, on the basis of central personality needs, can be classified as "self-oriented", will attach low measures of significance to socially induced forces related to warmth and directiveness;
(b) Teachers who, on the basis of central personality needs, can be classified as "other-oriented", will attach high measures of significance to socially induced forces related to warmth and directiveness;
(c) Teachers who, on the basis of central personality needs, cannot easily be classified as either "self-oriented" or "other-oriented", will attach medium measures of significance to socially induced forces related to warmth and directiveness.
Hypothesis II Teachers, whose needs for warmth and directiveness coincide with prevailing socially induced forces, will have professional values which coincide with both.
Hypothesis III Teachers, whose needs for warmth and directiveness do not coincide with prevailing socially induced forces, and who, on the basis of central personality needs, can be classified as "self-oriented", will have professional values which coincide with their needs for warmth and directiveness.
Hypothesis IV Teachers, whose needs for warmth and directiveness do not coincide with prevailing socially induced forces, and who, on the basis of central personality needs, can be classified as "other-oriented", will have professional values which coincide with prevailing socially induced forces.
Hypothesis V Teachers, whose needs for warmth and directiveness do not coincide with prevailing socially induced forces, and who, on the basis of central personality needs cannot easily be classified as "self-oriented" or "other-oriented", will have professional values which coincide with their needs for warmth and directiveness as frequently as they do with prevailing socially induced forces. However, where possible, their professional values will be a compromise between their needs and prevailing socially induced forces.
Hypothesis VI Teachers will display approximately the same degrees of warmth and directiveness in their classroom performance as they do in their professional values, if impersonal forces do not prevent them

Figure 2:1: Hypotheses of the PhD study

Much could be written about events between the beginning and end of that project. Two more babies (Kim Michele and Paul James) were born and another (Linda Mary) conceived. After living in a tiny, partly furnished, fibro house in Auchenflower for the first two years, paying £4/10/- (\$9) a week rent, we were finally forced by bird lice to move. The pest exterminator, *Mr. Cocky* (not his real name, which was Roy Stiffler), told us of another vacant rental house, this time at Corinda, and so there we moved. It was a perfect example of a "Queenslander" - a roomy, weatherboard house built on stilts with closed-in verandahs on three sides, on a large block of land. The rent was £5 (\$10) per week. However, it was unfurnished and so we bought second-hand furniture to supplement the few items we already had. It was in the wee-small hours there that I finished writing up the research.

1. There is a significant, though quite small, positive relationship between "other-orientedness" and significance attached to socially-induced forces upon warmth and directiveness.
2. In a significant number of instances, the warmth and directiveness of teachers' professional values can be predicted on the basis of "self-orientedness" and "other-orientedness", manifest personality needs for warmth and directiveness, and prevailing socially-induced forces upon warmth and directiveness.
3. With some qualification, the theory of professional values is parsimonious.
4. In relation to warmth and directiveness, teachers' anticipations of their classroom performance can be predicted from their professional values in a significant number of instances.
5. In predicting to teachers' anticipations of their classroom performance, the theory of teacher classroom behaviour is parsimonious when applied to teacher warmth and directiveness.

Figure 2:2: Conclusions of the PhD study

Almost 300 pages of text were devoted to reporting this research. It was all typed free on the newly released black, not purple, carbon master sheets for spirit duplicators. The university wanted only the usual three copies, but I wanted a few others to give to interested friends and could find no other affordable ways of producing that number. The conclusions are shown in Figure 2:2

The final two paragraphs are included here:

This study was not designed to test the validity of implications discussed immediately above, and they are put forward as suggestions for future research rather than products of this study. By the same token, some of the implications drawn in the earlier parts of this chapter about the psychology of role performance need to be subjected to careful scrutiny before their acceptability is known. This study does, however, seem to have been successful in achieving its main purpose. Some of the determinants of teacher warmth and directiveness seem to have been identified. Moreover, psychological field theory and role analysis have provided a theoretical and conceptual framework facilitating the exploration of the psychology of role performance, in general, and the psychology of teaching, in particular.

The most obvious feature of the above to me when I read it 40+ years later is caution. I had to ensure at all costs that I did not claim one iota more than was strictly allowed within the rules of science. I hope such caution has not dominated the rest of my life and that I have not become overly pedantic.

The first exhibition of the fruits of my labour was an address I gave to the Queensland Institute for Educational Research in July, 1966 (Dunkin, 1966b). The title was *Teachers versus the Rest: the Nature, Incidence and Implications of Several Types of Conflict of Queensland School Teachers*. This report dealt primarily with the evidence I had gathered that the teachers I had sampled were in agreement and/or disagreement with the perceived responses of others associated with their positions, such as principals, fellow teachers and parents, regarding ways in which their pupils should be, and were, treated. By that stage of my career, I had addressed classes of teenagers, young adults, colleagues and others many, many times as a teacher and was thoroughly inured to this type of occasion. There were no nerves; I was in command of the situation and performed well in the discussion that followed the formal address. I felt competent.

An address such as the one mentioned above was probably regarded as the lowest status publication that might be entered in an academic's curriculum vitae. My PhD research finished up yielding six other publications. Two of them were published first in scholarly journals (Dunkin, 1967; Dunkin, 1968b) and later republished as chapters in books of readings (Dunkin, 1970; Dunkin, 1973). Another was published as a monograph (Dunkin, 1968a), while the last was a report on an alternative method of analysis of the original data (Dunkin, 1972). The last was in a prestigious international journal! I had "milked" the data well!

The main trouble was that, given the limitations of my resources for the research, I had been dealing almost entirely with teachers' paper-and-pencil responses. The teachers had been asked questions regarding, first, what they said they ought to do, second, what they anticipated they would do and, third, what they thought others expected of them. Observational data of what they actually did in the classroom had been obtained for only a tiny sample of teachers for several case studies.

Awareness of these deficiencies served as a strong motive for wanting to research the real issues with a decent sample - How did teachers actually behave? Why did they behave in those ways? What were the effects of their behaviour? These were the three questions that Gage (1963) had maintained were crucial for research on teaching.

Early in 1967, we returned to Armidale, where I was bonded to resume duties at Armidale Teachers College. This was an event that we anticipated with pleasure. During our year there in 1963 we had enjoyed much warmth, companionship and support as newly-weds and first-time parents. Some of the friendships made then were to last 40 years or more, as it turned out. Professionally, the prospect of being the only member of staff of 50+ with a doctorate, given that many very competent scholars had been there for decades, made me feel like an upstart. Indeed, there was a slight embarrassment. As a matter of convenience, before we left Brisbane I bought my Cambridge Masters Gown with scarlet satin facings, the scarlet satin-lined hood and Tudor Bonnet with a scarlet tassle (the regalia adopted by the University of Queensland for PhDs). That was well before the degree would be formally awarded in April the following year - 1967. Nevertheless, I proudly wore them in a procession at St. Mary's Cathedral, Armidale, at a Mass celebrating the beginning of the academic year in March. My impulsivity evoked a negative reaction from my superior, the Head of the Education Department at Armidale Teachers College, who had no higher degree. This was not the type of greeting I had been anticipating!

My newly won "expertise" in research on teaching was hardly used at all at the College. However, the resumption of my teaching at the University of New England was especially welcome, because I was able to offer an honours/postgraduate seminar course in that area. I also resumed teaching there in the Diploma in Educational Administration, a distance education course. Two incidents dominate my memory of that work. The first concerned a lecture I gave to a group of perhaps 40 students, all of them schoolteachers or administrators, on some of the research issues I had investigated for the PhD. I announced that my all-male sample of teachers exhibited significantly lower mean scores than the norm on a variable called *Need for Heterosexuality* and that scores on this measure tended to decline with age. At that, a look of concern spread across the faces in the room and a mixture of chuckles and hisses emerged. That was expected, but after the lecture was finished and people were filing out of the room, a very well dressed man in his late forties smilingly approached me to assure me in all seriousness that neither finding was true of him.

The other incident involved the Deputy Headmaster (DHM) of a prestigious non-government boys' grammar school in Melbourne. A group of staff and students were socialising in the Saloon Bar of Bruyn's Hotel in Armidale and I was regaling some of them with stories from my overland trip from Singapore to London in 1962. In particular, I was telling of some remarkable coincidences that had occurred on the way. One was coming across a French cousin of one of my colleagues at St. John's College living in a rubber plantation in northern Cambodia. Another was meeting Iris Hardy on the ship going to Singapore and discovering that she had been teaching at East Hills Girls High School in Sydney with my cousin, Marge Torrens. But the story that produced a remarkable outcome was about driving in extreme heat out of Amritsar in India to Lahore in West Pakistan. Just out of Amritsar we came upon a very sunburnt European-looking man with a backpack, wearing shorts and a battered, broad brimmed, khaki, felt hat. He was hitchhiking. Although we were very short of space in our short-wheel-base Land Rover, we stopped and he squeezed into the back on top of all our gear. After introductions, our visitor, for some unknown reason asked me if I knew Jeremy Nelson. Heaven only knows why. Perhaps we had told him that we all came from St. John's College and he had deduced that we were likely to be Catholics. I confessed to knowing Jeremy and that, indeed, I had taught with him at Croydon Park Junior Tech. for a year or two, quite recently. He then said, "He's my Godfather!" He went on to explain that he had converted to Catholicism not long ago and that Jeremy Nelson had supported him in this. We asked where he had been and he told us that he had left Australia about a year before with only £10 (\$20) in his pocket, had spent a lot of time in Japan and was now heading west.

The DHM looked fascinated by the story and asked, "*What was his name?*"

I answered, "*Neale Hunter.*"

The DHM exclaimed, "*I know him! I taught him! I was responsible for his going on that trip.*" He continued by telling us that at the end of each school year he used to address the departing senior students and issue a challenge to them to complete their education by leaving Australia with no more than £10 in their pockets and travel around the world. Max Howell was the DHM's name and he was soon to become the Headmaster of Brisbane Boys' Grammar School. That all the convolutions involved in that story should come together over a few beers in that pub in Armidale still seems incredible, but it did happen.

This second year in Armidale was just as enjoyable as the first had been. The highlight was the birth of Linda Mary. Thus, I used to claim that we had had five children in four years: 1963's Sally, 1964's Kim, 1965's Paul, 1966's PhD (my brainchild), and 1967's Linda. Fertility was the name of the game! A big difference existed for Iris. With four children

under 4, there was no time for school teaching as she had done at Uralla Public School in 1963. Family picnics, preschool kindergarten for Sally and Kim, endless parenting for Iris, seemingly never-ending wood chopping for me, all spiced up with a few trout-fishing weekends (for me!), and singing in the chorus of *Cavalleria Rusticana* were dominant occurrences that year.

During one of those fishing expeditions, I almost achieved fame for a definitely non-academic incident. The half dozen friends had gathered round after a hard day's fishing and had sunk a few beers by dusk. Natural urges had to be satisfied and a floodway was the appropriate place for a "pee". As I approached the edge of the two-metre drop, Russell McDonald sang out, "*Don't go too far, Mick!*" Too late! I did and fell ignominiously on to a coil of rusty barbed wire at the bottom. A posse of mates arrived very quickly to rescue me and were, I later swore, less afraid that I might be hurt than that the trip might have come to a premature end. The main outcome of that fall was that I acquired a nickname that was to last a long time. I became known as "the flying doctor". Some years later I was teaching a group of external students in Sydney when a Josephite Sister, of the McKillop variety, came up to me and asked, "*Are you the one they call the flying doctor?*"

Opportunities to do research in teachers colleges were much more limited than in universities. The former were not funded to do research and research was not a requirement for career progression. Consequently, teachers colleges were not culturally as congenial for an aspiring researcher, as I had become. Career advancement in such colleges at that time was defined more in terms of administrative leadership than research prowess. Indeed, several vacancies at the top were imminent in 1967 and I was given the nod before the year was out. Vice-Principalships were becoming vacant at Armidale and at Alexander Mackie Teachers College in Sydney. I was encouraged to apply and so did. In time, I was interviewed by a panel consisting mainly of incumbent principals of teachers colleges. I had just turned 31 and, if my application were successful, would probably have been the youngest person ever appointed to a Vice-Principalship in New South Wales. However, it did not happen. Much as we loved our lives in Armidale and could have lived happily there for many years, we did not stay. Before the result of my application for a Vice-Principalship was announced another door opened.

Hugh Philp, another of my teachers in Education at the University of Sydney, had recently returned to Australia to become the first Professor and Head of the School of Education at the new Macquarie University in Sydney. He had been Director of Comparative Education in the United Nations Education, Scientific and Cultural Organisation (UNESCO) in Paris for the previous few years. Hugh's wife, Anne, had family roots in Armidale and they were visiting relatives when Hugh came to Armidale Teachers College to speak to staff about the new university in Sydney. He was obviously also on a recruiting mission and asked me if I was interested. I said that I was. This led to my being invited to apply for a Senior Lecturer position at Macquarie. Early in 1968 I was offered the position on the third step of the appropriate salary scale. This was a very attractive prospect, especially when Hugh assured me that the university would guarantee a housing loan of 100 percent! There we were with no money and four children, no possibility of a job for Iris and only dim prospects of breaking out of the rental home arrangement in the foreseeable future. We did not really want to leave Armidale but could not refuse the Macquarie offer, which was a very attractive one. The important matter of my bond with the NSW Public Service Board to return to Armidale could have been an insurmountable hurdle, as we were in no position to buy my way out of it. However, the NSW Government was committed to ensure that its brand new Macquarie University was given every support possible. Consequently, my bond to the Public Service Board was transferred to Macquarie, as a public university, and I was permitted to serve out the bond there.

In early April we made the move to a rental house that had been found by my mother, and my sister, Pauline, and her husband, John, in Greenacre, a lower socioeconomic status suburb in the inner south west of Sydney, and immediately began house hunting for a home to own. Eventually, we were attracted to a vacant house only 10 minutes drive from Macquarie University. An acquaintance of Hugh Philp owned it and it was the first house we looked at. We bought it and have lived in it ever since, though the additions, alterations and renovations over 40 years make it almost unrecognisable as the house we bought.

Chapter 3: Macquarie University Research

At that time I was the second youngest person ever appointed to a Senior Lectureship in Education in Australia, so I was told. My starting salary was \$8,300 per annum. We had to trade in our 1962 Ford Falcon automatic sedan with a Pursuit motor in Armidale in exchange for a 1964 Holden EH manual sedan with a 149 cubic inch motor, because I was not confident that the Ford would get us to Sydney without breaking down. The Ford had been running roughly ever since I drove through a flooded dip in a road in Armidale several months earlier. We had no savings with which to pay for the repair of the Ford but we could enter into a hire purchase agreement to buy the Holden after a trade-in. Thus, we arrived safely in Sydney, where I joined the staff at Macquarie University early in April, 1968.

The next couple of years in a new university were very hectic but very stimulating. There were new courses to be designed and great opportunities to do important things. A large proportion of the students consisted of mature-age women returning to study after raising a family. As a group these "Macquarie Mums" were wonderful to teach and were very appreciative of the opportunities now open to them. The staff of the School of Education was small in number but would increase rapidly in the next few years. I was to play a key role in the development of undergraduate programs of study, for I had more experience in higher education than most, although I was one of the youngest. I had also to initiate postgraduate degree programs, research emphases and attract and supervise postgraduate research students. Apart from Hugh Philp and Eddie Richardson, who had arrived recently from England from a TAFE background, I was the only one with a doctorate. That meant that there were only three people qualified to supervise doctoral students. I soon found myself supervising the director of the new Nursery School Teachers College, Jennifer Simons' MAHons thesis on learning-to-read by alternative methods, such as Words in Colour and the Initial Teaching Alphabet (ITA), about which I knew nothing. Over the next couple of years, Neil Baumgart, Stan Doenau, Don Levis, John Braithwaite and Christine Deer were all new appointees whose PhDs I supervised (wholly or partly) and Harry Thompson became an MAHons candidate, also under my supervision. I took charge of the BA Honours program and soon found myself supervising a handful of students pursuing that. It seemed that I was supervising heaps of research, none of which was my own!

There was little internal money to support research. It had to be won in open competition with every other university in the country and Macquarie had no institutional history as a competent research venue. Fortunately, Bob Precians arrived with his brand new PhD from the University of Illinois in August, 1968. He had worked with Professor B. Othanel Smith, who had directed two outstanding projects on the logic and strategies of teaching. People with backgrounds in classroom research were few at that time and so Bob and I quickly became close colleagues and set about planning courses and research in that area. When 1969 began, we recruited our new colleague, Stan Doenau, to our team and initiated courses at second, third, fourth and postgraduate levels. But by then we had not launched a single research project. Neil Baumgart did his PhD research involving analysis of the behaviour of staff and students in university tutorials. The study was financed by the Vice-Chancellor and was highly original in the field of higher education (Baumgart, N.L., 1976). He earned a brilliant international reputation in the field of education program evaluation, engaging in over 70 international consultancies in 15 developing countries, became Head of the School of Education at Macquarie University, General Manager of School Programs in the Victorian Education Department, and eventually retired as Foundation Professor of Education at the Nepean Campus of the University of Western Sydney.

In those days of the very young university, there was a great deal of interest in becoming known, in having an impact, in making a contribution, in being valued, in establishing a reputation. Accordingly, we took on a host of extramural involvements with such enterprises

as a new international high school, a new Jewish school, a new open-plan school, a new preschool kindergarten, and so on and so on. There was a new organisation called SPELD fostering support for special education. The NSW College of General Practitioners was establishing a new tutorial program for its members and aspirants. Hugh Philp was usually the front man, of course, while staff such as Stan Doenau and I were the workers. Not true! Hugh's work in creating such opportunities for the School was very important.

There were weekend meetings, workshops, seminars, colloquia, demonstrations, consultancies, inquiries and so on. I replaced Merv Dunkley on the NSW Board of Teacher Education for one year, while Merv was on study leave. When he returned I was no longer a member of the Board but I became Chairman of the Research Committee of the Board for the next three years. It was good for me, I kept telling myself! I was chairing a vital committee of a crucially important agency of the sovereign state of New South Wales and I was not yet 36. I used to be chauffeured to and from the meetings every month. The driver was Joe Donovan, former chauffeur of media magnate, Sir Frank Packer. As I reflect on this in my old age my mind says, "This was little Mick Dunkin! If only my father could have seen me then!" I was swept up in the excitement of it all, accepted the challenges and did the work, hopefully not to the detriment of anyone.

The College of GPs used to meet in Bligh House in Macquarie Street in Sydney on occasional Sundays. Once I went there with a strange, savagely itching and paining rash on my waistline. I had been gardening the day before and assumed I had been bitten by something. Over lunch I mentioned it to one of the doctors, who took a look and sentenced me to "SHINGLES", for God's sake. One of my kids had brought chicken pox home and that was that. The doctor suggested I get a lotion and spray a plastic dressing on it to stop the irritation by my clothes. It worked and there was no fee! It was worth it! The family even had a week in a motel in Coffs Harbour while I went through my paces teaching the most populous section of the medical profession how to conduct tutorials for their colleagues, at no charge. One of the participants was Dr. John Corry from Armidale. He had brought our precious Linda into the world in Armidale Hospital, in 1967. I know because, as Iris would have it, he caught Linda at the doorway of the delivery room as he arrived. So wonderful a pusher was Iris. I suspect that John tried out for the local cricket team in the spring! We still owe him a lot. We nearly lost Paul that week from jumping into the swimming pool while not knowing how to swim or about danger at all. He was our inconsequential one! Kim then obliged by vomiting in Hugh Philp's Mercedes on the way home to Sydney.

Another consequence of my commitment to the art and science of classroom interaction and my connection with the College of GPs was soon to follow. At one of their meetings I met Dr. John Ellard, an eminent Sydney psychiatrist, and we began chatting. I told him that I was interested in observing dimensions of classroom behaviour, such as affectivity, but that I was dissatisfied with existing concepts concerning expressions of emotions in these contexts. He mentioned that he ran group sessions for patients and that he had learnt a great deal about ways of expressing emotion and asked me if I would like to sit in as an observer and give him feedback on his own behaviour, particularly something he called "transference".

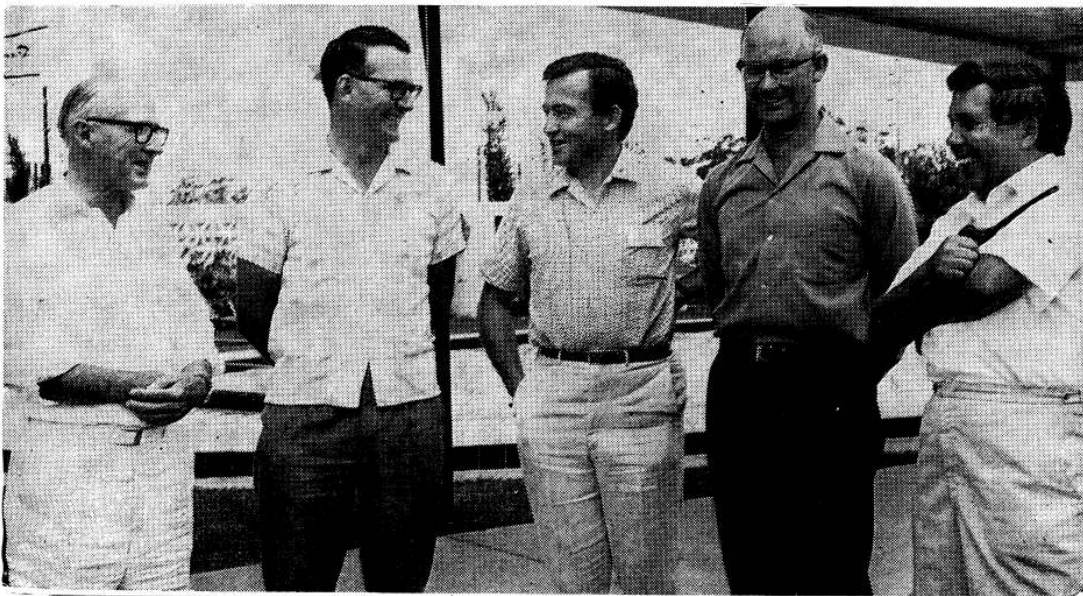
I leapt at the chance and so for the next 18 months, every Tuesday at 4.00pm I arrived at the Northside Clinic and spent the next hour or so observing interaction among seven or eight patients and Dr. Ellard. I had never heard of *anorexia nervosa* at that stage but there was a young woman there with that problem. Another young woman had had serious problems relating to her mother. I had noticed that she wore two wedding rings. As the discussions proceeded over the weeks it became clear that she had had an alarming relationship with her father. Needless to say, I was fascinated by these and other stories and often felt like an

MONDAY, FEBRUARY 17, 1969

SIXTY DOCTORS HERE FOR SEMINAR

Small group study method of learning

Sixty doctors from all Australian States and New Zealand are attending a six-day seminar in medical education at the Star Motel, Coffs Harbour.



to right, are Dr. W. L. Corlis, a N.S.W. post-graduate Fellow of the College of General Practitioners, Dr. Michael Dunkin (Macquarie University), Dr. J. P. Corry (Armidale), Dr. N. H. Ringrose (Narrabeen North) and Professor Hugh Philp (Macquarie University). Informality is the keynote of the seminar, which began yesterday and will continue until Friday.

eavesdropper. Only very rarely did anyone show interest in my presence, thank heavens. I must have learnt much about the multitudinous ways in which aggression could be expressed, perhaps most importantly, the role of silence in aggression. Silence occurred to me as often used in social settings as aggressive withdrawal of cooperation. I wondered how often that occurred in classrooms as a device used by those with inferior status or power to punish those with heaps.

While all this was going on, Hugh Philp became involved in moves to establish a national education research organisation. He generously offered to host meetings of the planning committee at Macquarie. Guess who he invited to be the secretary of the committee. Yes, it was I. Guess who then was responsible for organising the Founding Conference of the Australian Association for Research in Education (AARE). Right again, but in this enterprise I had the help of Bill Coppel, who agreed to be Treasurer. Accordingly, 105 of the top people in education research in Australia met at the Newport Inn motel on 13th-15th November, 1970. A representative of the American Educational Research Association, Richard A. Dershimmer, the first Executive Officer of that organisation, was there (and was to become a much loved friend of the Dunkins). Guess who then were elected unopposed as

the Founding Honorary President, Founding Honorary Secretary and Founding Honorary Treasurer of AARE. There you go again - Philp, Dunkin and Coppell! Not long after, David Cohen, another of my treasured colleagues at Macquarie, became Editor of Publications of AARE, and volume 1, number 1 of the *AARE Newsletter* appeared in July, 1971.

In 1970 the Australian Advisory Committee for Research in Education (AACRDE) was also established -

... to make recommendations for the financial support of proposals for educational research projects; the collation and dissemination of information about completed research and research in progress and also measures for the training of research personnel. (Bessant & Holbrook, 1995, p. 34).

I was later quoted by Bessant and Holbrook as saying that news of this development was "earth shattering" and that it was "the biggest shot in the arm to educational research: everyone was agog with excitement with this recognition of educational research in Australia" (p. 34). Maybe that was an overstatement, but it certainly stimulated my colleagues and I to get to work. We designed a two-pronged study that was eventually funded by AACRDE. Strand A was Stan Doenau's and my baby and was based on a study by Wright and Nuthall (1970). Stan was to earn his marvellous PhD on it. Strand B was unique and was owned by Bob Precians, who worked tirelessly to develop an approach to the study of classrooms that was easily the most fine-grained ever conceived. I disappeared from Macquarie in December, 1970, to the University of Missouri on six months study leave to write a book with Bruce Biddle. The application that finally arrived at AACRDE bore Hugh Philp's name as leader of the team and my name was absent. That did not matter, for we received a grant of \$13,000 and by the time I returned in July 1971, Bob and Stan were well on the way.

At the same time, AACRDE funded a project led by Cliff Turney, from the University of Sydney, concerning the use of microteaching in teacher education in Australia. I wrote a chapter entitled "*Efferctiveness of teaching skills involved in microteaching*" for the published report on that project (Turney, Clift, Dunkin & Traill, 1973).

Dunkin and Biddle

The Dunkin family's experiences for the next six months have been reported fully in Dunkin (2000b) and do not need to be repeated here, where I will concentrate on the academic work that gave purpose to the Missouri expedition. After we had farewelled the Biddle family on their return to Missouri from Brisbane at the end of 1965, they returned to Australia on sabbatical to Monash University in Melbourne in 1969. During their stay they drove to Sydney for a week so that Bruce could visit Macquarie University. We discussed the type of project we might work on together over the next few years. As I had worked intensively for the last five years on reviewing and teaching about classroom research, that was the logical place to start. Then after the Biddles returned to Missouri, Bruce and I corresponded until finally, in October, 1970, he invited me to become a Research Associate at the Center for Research in Social Behavior, which he directed at the University of Missouri. I nearly jumped out of my skin at this offer and in what seemed like no time at all we boarded a BOAC VC10 for Los Angeles. I was the first School of Education staff member to go on study leave.

The type of research I embarked upon in Missouri with Bruce Biddle was a review, or synthesis, of research and theory on classroom interaction reported around the world. The

task of learning the state of the art regarding intellectual inquiry in any field involves a wide range of cognitive operations: definition, description, comprehension, comparing and contrasting, analysing, synthesising, evaluating and probably others. At the end of the process, however, the researcher has reached a synthesis, a bringing together of possibly hundreds of discrete entities sharing a common concern: extending knowledge of a topic. There is a variety of approaches that might be adopted in synthesising research. Over the past 30 years they have become known as methods of *meta-analysis*. In spite of its name, *meta-analysis* involves identifying the research that has already been reported on a topic and *synthesising* it so as to arrive at conclusions concerning progress made to date. One learns about the variety of questions investigated, theories posited, methods used, findings reported and conclusions reached. One identifies strengths and weaknesses, coverage and gaps, and emerges with choices available in pursuing further progress in attaining knowledge concerning the topic.

Bruce and I stipulated that the research be observational in the sense that information about classroom events had to have been gathered by trained observers present in the classrooms as events occurred there, or by systematic analysis of records of classroom events, such as transcripts, audiotapes and videotapes. By 1970, the number of studies using videotapes was extremely small, Ray Adams's (Adams & Biddle, 1970) being the only one we knew of. Insistence on observational methods was justified on two main grounds. One was that educational literature was already replete with anecdotal accounts based on reminiscences by untrained observers claiming to "know" all that went on in classrooms. Verification of the reliability and validity of those accounts was impossible and so were replication studies. Much of what had been written in the past may have been alarming, amusing, inspiring or damning but it certainly was not very scientific. The other reason was that the most common empirical approach involved having untrained judges give ratings of teacher qualities that were often undefined but were assumed to represent classroom behaviour, without being checked against reality. The net contribution of these methods to the understanding of teaching and learning in classrooms was approximately nil.

Not long before we embarked on this enterprise, similar reviews had already become available. Most notable were Gage's (1963) *Handbook of Research on Teaching* and a mimeographed precursor of Rosenshine's (1971) *Teaching Behavior and Student Achievement*. However, neither of those was what we had in mind. For example, Rosenshine confined his synthesis to results of a *process-product* or *input-output* type. In simpler, less jargonistic language, he concentrated on the relationships between what teachers did and what students learned. Of course, Bruce Biddle and I also wanted to know how classroom conditions and events affected what students learned while they were there. We also wanted to know why teachers did what they did. We wanted to know how the things teachers did affected the things students did in the immediate context of the classroom. We wanted to know the effects the environment had on the things teachers and students did. Thus, we had in mind four main types of variables. They were *context variables*, *presage variables*, *process variables* and *product variables*. We conceived the idea that all four could be inter-related and that the category into which any variable would be assigned would depend on whether we were focussing on the *teacher* or the *students en masse* or a particular *individual student*. Thus, the teacher could be regarded as part of the *context* of the *class*, whereas the *class* could be regarded as part of the *context* of the *teacher* or, indeed, of any *individual student*. The architecture of the classroom, the culture of the school, the season of the year, the time of the day, climatic, economic and health conditions, would all be *context* variables.

Anyone who has attended school knows that school children are more difficult to control on very windy days! We all know that children and teachers find it more difficult to concentrate as the end of the day, week or term approaches! That is why mathematics

lessons tend to be held in the mornings before recess, while art and craft and physical education and sport happen in the afternoons, and excursions are planned closer to the end of term. But few attempts have been made to document these "truths". These are all examples of the effects of the *context* of the classroom upon the *processes* (for example, smiling, listening, problem-solving, distracting, answering, asking, demonstrating, commending, cajoling, questioning, supporting, expounding, correcting, distributing, frowning) that occur within it. They are *context-process* relationships that could be examined. Such relationships reveal influences upon classroom events that environmental factors, physical and temporal, have.

Questions about other causes of teacher and student behaviour involve *presage-process* inquiry, that is, relationships between teacher or student characteristics (sex, age, personality traits, professional qualifications, willingness to learn, for example), which are regarded as *presage* variables, on the one hand, and *process* variables, on the other.

When teachers invite students to participate in such events as discussions or perhaps tell students to be quiet, occurrences that are very common in modern classrooms, we have classic examples of *process-process* relationships, classroom events of one kind (teacher behaviour) leading to classroom events of another kind (student behaviour)

The relationships that attract most interest, however, are *process-product* ones, the ones between teaching by teachers (*processes*) and learning taken away by students (*products*). Of course, students often learn from each other in the classroom by watching and overhearing mainly, but the watched or overheard student is not said to be teaching unless he or she intended it to contribute to the classmate's learning. Similarly, teachers learn from their students. For example, teachers learn about their students' progress from the ways the latter perform in the classroom. They learn about personality traits of students, such as their intelligence, persistence, and sociability, the same way. However, in such cases it is not that the students have taught the teacher, again because the students did not intend the teacher to learn these things. Paradoxically though, it is not uncommon for students to intend to impress their teachers through exhibiting their prowess in the classroom. Are they then teaching their teachers?

Bruce Biddle and I did not claim to have originated a totally new conceptualisation of teaching and learning but our model for research on teaching became well known and our names were frequently associated with it. It is presented below in Figure 3:1. Figure 3:2 contains a sample of the way in which details of our analysis of the research on each *process variable* and its relationships with other variables in the model were reported.

After six months in Columbia MO working on the book, we had about eight chapters in draft. By then it was time for the Dunkins to return home, via the Lake of the Woods near Winnipeg, where the Biddles had recently bought an island retreat, and Oahu and the Gold Coast for a short rest. Most of the rest of my writing would occur at home in Ryde.

On my second trip to Missouri, I had to leave Sydney on Christmas Day, 1970, and fly to Los Angeles. As Christmas Day was ending in Sydney it was arriving in LA and so I had an extended Christmas, alone in a motel room trying to sleep. At the end of a frantic period of writing in Columbia, I had to fly to Baguio in the Philippines to chair part of an international workshop on teacher education organised by the Asian Institute of Teacher Education, an agency of UNESCO. It was there that I met Dr. Robert Bush from Stanford University and his Australian wife, Dr Nancy Bush, who had done her PhD at Stanford. She was a contemporary of Dr Harold Wyndham, who was to become one of the finest Director-Generals of the NSW Department of Education. At the end of that I flew back to Manila hoping to make a connection to fly directly home to Sydney. However, the international

terminal and, with it, the control tower at Manila airport had been burned down, supposedly by a customs officer who wanted to conceal his corrupt behaviour. As a result no planes landed or took off at that airport for three days. In that time my excursion economy class ticket with QANTAS had expired. Finally, I was put aboard one of the first planes to leave Manila for Hong Kong. But on that day Hong Kong was fog bound. As we approached Hong Kong, the Philippine Airlines pilot announced that no planes had managed to land at Hong Kong so far that day but that we would try. He went on that he would make just one attempt and if that were unsuccessful we would return to Manila. At that point I heard many breaths being drawn noisily in as the passengers said to themselves, "*If it's unsuccessful we'll probably all be dead!*" Fortunately, we made it and for the first and only time in my life I witnessed all of the passengers clapping their hands and cheering in relief.

The landing was just in time for me to get to the QANTAS counter to hear that a QANTAS jet had just landed and was soon to leave for Sydney with three empty seats. Three of us rushed through the departure lounge and ran out onto the apron, where it was raining. As I rushed to the plane, the handle of my briefcase broke and I lost time stopping to tuck the case under my arm. I was the last one to board and was expecting the worst seat possible in a jumbo jet - in the middle of the centre block of seats in Row 58. But alas! - as I stepped into the plane and turned right towards economy class, the flight attendant said, "*Oh no, Sir. The only seat left is in first class*". I like to embellish this story by claiming to have downed four scotches before take-off. The truth is - I can't remember - which is enough to arouse suspicion anyway. It was undoubtedly the most enjoyable flight I've ever had, not just because it was in first class - I'd already flown first class to and from Manila early in 1970 - but because I did it on an expired excursion economy class ticket. The plane stopped at Darwin on the way home and again in Brisbane. I was not the least put out when a flight attendant informed me that an economy class seat had become available and asked if I would mind occupying it for the one-hour flight to Sydney. I didn't mind at all!

As draft chapters of the Dunkin/Biddle book were printed they were mailed to the other author for his comments and recommendations. Second drafts were returned for comment to the original author and the substance of the final draft determined. The whole of the final manuscript was produced in Bruce's office. He had last say on stylistic matters and brought a wealth of publishing experience to that task. I was the first named author because I wrote the first draft of eight of the twelve chapters.

The book was finished in manuscript form by August, 1973, by which time both Bruce and I had crossed the Pacific twice and had written dozens of long letters to each other. There were no fax machines, scanners or desktop computers in those days. Photocopiers were recent arrivals and were in their most primitive state. The internet was at least a decade away. I received my first copy of *The Study of Teaching* from the publishers, Holt, Rinehart and Winston, in May, 1974. By that time I had been promoted to Associate Professor status. The book contained 490 pages of text divided into 12 chapters, as well as an appendix and the usual front and back matter. Chapter I, *Outlook and Orientation*, was followed by three chapters that constituted *Part One* of the book under the heading *Necessary Tools*. This presented criticisms of early research on teacher effectiveness, discussed common beliefs about the nature of teaching, presented the conceptual model adopted in our review, and discussed methodological problems in classroom research.

Part Two - Substantive Reports contained six chapters that described the research, presented our syntheses and the conclusions we reached. *Part Three - Putting It All Together* contained two chapters that presented "*findings for teachers*" and "*recommendations for researchers*."

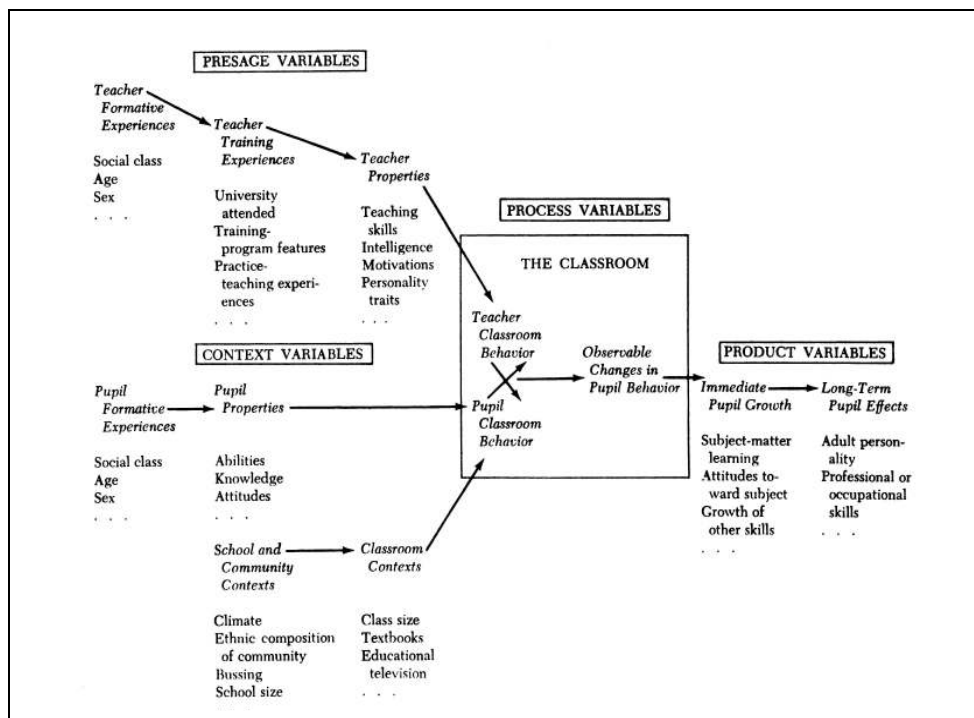


Figure 3:1: The Dunkin & Biddle model for research on teaching

BOX 6.1 Findings Pertaining to Directiveness

FINDINGS FOR TEACHER TALK

Process Occurrence

6.1-1 *Teacher talk* comprises one half to two thirds of all classroom interaction time (F&A67), (Fu67b), (D&L70).

Context-Process Relationships

None reported.

Presage-Process Relationships

6.1-2 *Greater practice teaching experience* is associated with *less teacher talk* (Kir67).

6.1-3 *Teachers rated "superior"* exhibit *less teacher talk* than do those not so rated (A&G67).

6.1-4 *Experimental treatment* does not produce change in *amount of teacher talk* (Fu67b)E.* *In contradiction*, it is also found that

6.1-4a *Experimental treatment* decreases the *amount of teacher talk* (Kir67)E.

Process-Process Relationships

None reported.

Process-Product Relationships

6.1-5 *Amount of teacher talk* is unrelated to *pupil achievement* (Flan3), (Flan4), (Flan5), (Flan6), (Flan7), (Sha66), (W&N70).

6.1-6 *Amount of teacher talk* is unrelated to *pupil attitudes* (Flan4), (Flan5), (Flan6), (Flan7). *In contradiction*, it is also found that

6.1-6a *Greater teacher talk* is associated with *more positive pupil attitudes* (Flan3); and also

6.1-6b *Greater teacher talk* is associated with *less positive pupil attitudes* (Flan2).

Figure 3:2: Sample of a results box in Dunkin & Biddle (1974)

The final chapter concluded with a "post script" as follows:

Readers who are not now convinced of the vital importance of research on the processes of teaching will probably never be. What we cannot hope to portray is the exciting challenge, the joy of the hunt, that accompanies

research into this fascinating field. One of our motives in writing this book has been to intrigue others into the real need for competent classroom research. If you have interests in this field, welcome to a fascinating career that combines science with an opportunity for needed social service. The need is pressing, the challenge great, the problems remaining to be investigated legion! (Dunkin & Biddle, 1974, p. 447)

Well, how well did it sell? In the first print run 3,000 copies were produced and its price in the USA was \$9.95. The publishers, Holt, Rinehart and Winston, who had treated us wonderfully during the writing process, printed only 12,000 copies - four printings of 3,000 each. After six years only 9,882 copies had been sold. There was no second edition. University Press of America bought the rights to reprint it in photographically reduced form. The book was clearly not a publisher's delight. Yet it became famous. By 2008, it had been judged one of the most influential books on American education in the 20th Century by the Museum of Education at the University of South Carolina on the basis of a survey it had conducted. Anyone who reviewed classroom research after 1974 mentioned it and borrowed from it. Indeed, there were claims made about our conclusions or recommendations that were simply not true. It was as if some authors thought they could justify anything they wrote simply by claiming that we had also said it, even if we had not. On the whole, the most commonly adopted part of the book was the four variable conceptual model depicted in Figure 3:1. As recently as 2008, eminent scholars in the field, such as Judith Green, were still citing it. When I Googled "dunkin and biddle" on 26 June, 2008, 304 entries mentioning the book appeared spread over more than 50 pages. I could have pursued it further but the search was finally overwhelmed by the number of references to *Dunkin' Donuts!*¹ There were inclusions mentioning the book written in so many languages I couldn't recognise that I gave up trying to count them. My conclusion has to be that, in spite of the low number of copies sold, the book had been very successful.

Lobsters, Timor and Yap

As mentioned above, while I was busily working on the Dunkin and Biddle project in Missouri, Bob Precians and Stan Doenau and several hard-working assistants were gathering data on the research projects that had been funded by AACDRE. Strand A and Strand B were in full swing. Strand A had become partly Stan's doctoral research and partly my concern, although almost all the data had been collected by the rest of the team while I was away. The project involved 32 Year 6 classes and their teachers in Sydney. The teachers were asked to teach three social studies lessons of approximately 30 minutes' duration on topics chosen by the researchers as being consistent with the school curriculum, though not likely to have been encountered by the students before. The purpose here was to minimise the likelihood that the students had prior knowledge of the subject matter of the lessons that might assist their performance on tests given after the lessons. That would make it easier for us to conclude that anything they had learnt on the topics was due to the lessons at school. Teachers were also asked to use both subject-matter knowledge and critical thinking objectives in the planning and presentation of the lessons.

One topic was the *"Rock Lobsters in Western Australia"*, the second was *"Some Problems in Timor"* and the third was *"The Stone Money of Yap"*. The teachers were supplied with materials to help them with the lessons, audio-recording equipment was set up in each classroom before each lesson and during the lessons an observer kept a record of chalkboard work and student bookwork. Tests of students' IQ, prior knowledge and skills in social studies, and anxiety and dogmatism were applied before the lessons were taught. For the first two topics (Lobsters and Timor) student achievement tests developed especially in relation to subject-matter knowledge and of critical-thinking ability in relation to those topics

¹ On 2 January, 2010, while Googling my name I discovered *Dunkin the Vampire Slayer!* No relation I hope.

were given exactly one day after each lesson and again several days later, so that both short-term and longer-term learning could be estimated. The tape recordings were transcribed and the lessons analysed using an observational instrument developed by Stan for the purposes of his PhD thesis (Doenau, 1977). For the third topic (Yap) one student achievement test, containing both knowledge and higher order thinking items, was administered one day after the lessons only.

My concern with the Stone Money of Yap data was to research various ways in which differences among students in such characteristics as general ability (often called "IQ") and prior knowledge of a topic might be taken into account in identifying the effects on student achievement of the classroom processes being observed. The most common procedure employed in previous research was one which involved adjusting post-lesson student achievement test scores on the basis of general ability and prior knowledge scores. The task then was to take the adjusted scores and find the extent to which process variables correlated with them. However, that approach assumed that general ability and prior knowledge were uncorrelated with process variables in their effects upon student achievement. During the 1970s this assumption had been challenged, most notably by researchers concerned with identifying "Pygmalion effects". Such researchers studied the possibility that teachers' knowledge of variations among their pupils in characteristics such as IQ, might lead them to expect different levels of achievement accordingly. The question then became, did those teachers treat pupils in ways that were likely to confirm their expectations? If so, *self-fulfilling prophecies* might occur and serious discriminations against some students might exist.

Self-fulfilling prophecies were demonstrations of the way in which student characteristics (e.g., IQ) could affect teacher judgments, which in turn might affect teachers' classroom behaviour and consequently student achievement. By such a process student characteristics and classroom processes would be correlated and to that extent each would not only have independent effects on student achievement. They would also have *joint effects* on the latter. If so, then distinctions would need to be made between the *unique effects* of student characteristics and the *unique effects* of teacher behaviour and the *joint effects* of those two. Figure 3:3 depicts those three types of contributions to variance in student achievement. Area *x* acknowledges that student characteristics, such as IQ and socioeconomic status, can affect student achievement (product variable) independently of the effects of any other class of influence. Area *Y* signifies the same for process variables, such as teacher questioning. Area *z* represents the proportion of variance accounted for by the *joint effects* of those two classes of variables.

This was the approach adopted in the *Stone Money of Yap* study. Full details can be found in the published report in the *Journal of Educational Psychology* (Dunkin, 1978). As if to vindicate the importance of teaching, it was found that teacher behaviours, uniquely, accounted for almost the same proportion of the variance in student achievement (21%) as did student characteristics (23%). Joint effects of those two accounted for 35%. This last finding does, in fact, raise the possibility of the *expectancy* effects discussed above. It was to become the main stimulus for later research on ethnicity in the classroom, described below.

Given, then, that teaching behaviours were found to contribute significantly to student achievement, which of those behaviours seemed to be the most important? One factor emerged almost to the exclusion of all others and that was *relevance* of the discourse, especially *structuring* and *positive reactions* by the teacher, to the items on the tests administered after the lessons. A second important factor was *vagueness* of expression by the teacher. In other words, the extent to which the subject-matter was covered during the lessons and the clarity with which it was covered emerged as the best indicators of students'

learning from the lessons. There were no surprises here but it was encouraging to know that the methods used did not hinder obvious truths being discovered!

Over the next few years Stan completed his PhD successfully. He confined his analysis to the data concerning the first two lesson topics (Rock lobsters and Timor), leaving the third set to me. He did an enormous amount of excellent work on the data analysis and writing of his thesis. It was the biggest and possibly the best I would ever see. Stan was a highly skilled and very experienced writer. His data made it possible to investigate the *replicability* of my findings and that is exactly what I embarked upon next.

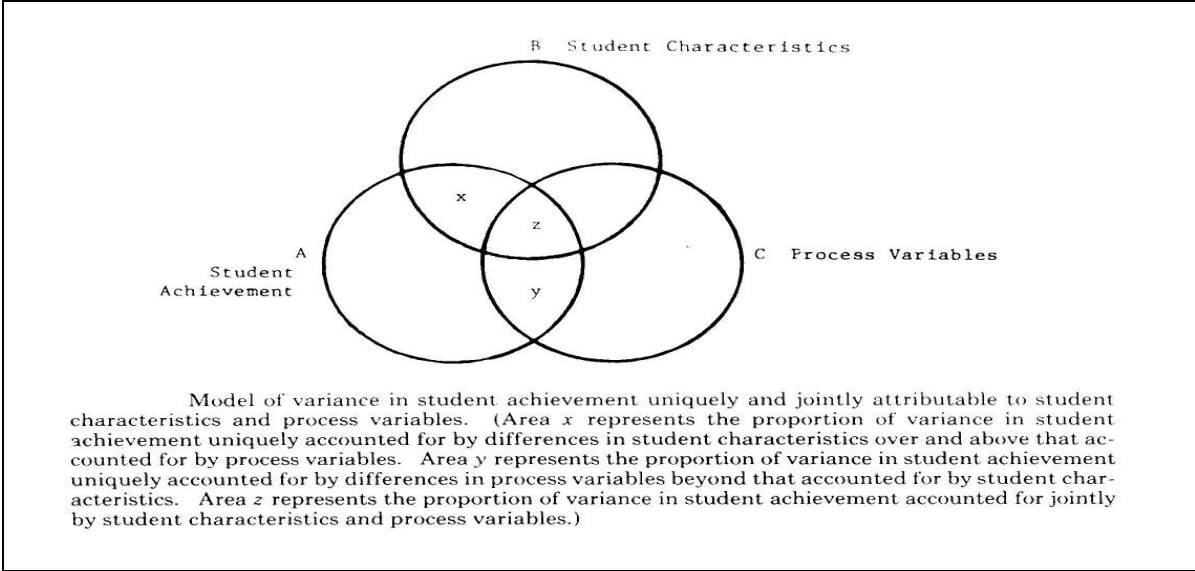


Figure 3:3: Model of contributions to variance in student achievement (from Dunkin, 1978).

Contributor to variance	Lesson on money of Yap	Lesson on Timor's problems	Lesson on rock lobsters
1. Student characteristics uniquely	23%	2%	34%
2. Process variables uniquely	21%	36%	30%
1 & 2 jointly	35%	47%	10%

Table 3:1. Results obtained for short-term knowledge in the replicability study

Table 3:1 indicates that the unique contribution of *process* variables was substantial and reasonably consistent in all three lessons for short-term performance on the subject-matter knowledge test. However, for *student characteristics* the corresponding results varied greatly, especially for the Timor lesson. Finally, *joint effects* also varied considerably, especially for the Lobster lesson. Replicability of the results of the Dunkin (1978) study had been demonstrated most convincingly for *process* variables.

Conclusions regarding the individual process variables are summarised below from the published version in both our names in the *Journal of Educational Psychology*:

Just as Dunkin (1978) found content coverage to be one of the most powerful predictors of student achievement, so we found it to be in the present study. In this study it seemed that content covered in the process of interaction between teachers and students and not just the total amount of content covered by that and other means was a particularly useful predictor. Content coverage

has now become so well established as a correlate of certain kinds of student achievement ... that it might be used as a criterion in investigations of such questions as which classroom contexts and behaviours most facilitate content coverage. This study, like Dunkin's (1978), found that student characteristics such as prior knowledge, dogmatism, and anxiety were associated with content coverage variables, at least with respect to one of the lessons. It was also found that teacher vagueness was involved in associations with those student characteristics and some of the content-coverage variables.... (Dunkin & Doenau, 1980, pp. 394-403)

Variables such as *time on task*, and *content coverage* were attracting much interest from classroom researchers during this period and so it should have been of some value to have our findings concerning their relationships with product and other process variables available to other researchers. The findings of individual research projects such as my colleagues' and mine have limited importance unless they contribute to the accumulation of corroborated evidence, especially cross-culturally.

Classroom Interaction in New Guinea

Another of my Macquarie colleagues was Max Kelly, who had been doing research on cognitive development in Papua New Guinea children for his PhD, with funding from the PNG Department of Education. Max's research was theoretically based more on the concepts developed by Jerome Bruner than those of Jean Piaget, possibly the best-known writer in this area. However, apart from Hilda Taba's (1966) and Solomon's (1970) work, there seemed to have been little attempt to research classroom interaction events in relation to cognitive development theory. To cut a long story short, Max and I designed a project that might help to fill the gap. However, there was a problem. Two of the three schools in which Max would be testing in the Western Highlands of New Guinea had no electric lights and no electric power. My part of the research necessitated electronic recordings of classroom events. Were we stymied? No, for Max was a fully qualified electrician before he entered academe. He was able to convert a Sony portable video cassette recorder and TV camera to run off a 12 volt car battery!

Thus, we embarked in early July, 1972, for Mount Hagen, the principal city in the Western Highlands, and points beyond. My part of the project would be the first time television recordings had been used in classroom research in this part of the world. The schools were primary schools in the villages of Muglamp and Koklamp, and the primary school associated with Holy Trinity Teachers College in Mt. Hagen.

We began in Muglamp, where we lived for work in the first two schools. Home was a three-room kunai house, made with a wooden frame covered by the long, tough grass (kunai) that grew in the vicinity. There was a shower outside and a deep-pit latrine to meet basic needs. Nearby houses were similar and were occupied mainly by teachers. Within each school, classes at grades 1, 4 and 6 were selected for study and within these classes lessons in social studies and mathematics were recorded. In all, 10 teachers and their classes were observed and 40 x 15-minute lessons were recorded. All the lessons were in English, the children's second language after the vernacular, which was Melpa. Pidgin was the *lingua franca* for different native language groups.

The classrooms were rigged with microphones suspended from the roof timbers on rope at strategic locations in the rooms. I set up the TV recording equipment as unobtrusively as possible. One check on the pupils' distraction by the equipment was the incidence of their peering straight at the camera as recorded on videotape. They soon forgot about me, it seemed.

It took one week in each school to gather the data for my part of the research, starting in Muglamp in week 1, while Koklamp was visited in week 2. I continued to live in Muglamp and drove the six kilometres to Koklamp each morning in a car Max had bought some years earlier. Then, having finished my work in those two schools, I moved into living quarters at Holy Trinity College for the final week. The Principal of the college was Peter Meares, who was later to do his PhD at Macquarie University.

Life in Muglamp had many exciting moments. We arrived with a supply of video recordings of Aussie programs, such as "Matlock Police" and several commercials. On some afternoons we showed these to the assembled populace who had never seen anything like them before. They were transfixed. The commercials won hands down in the popularity stakes! Now and then, as opportunity provided, we would record village scenes, especially spontaneous episodes when teaching was occurring. We came back to Oz with precious recordings of an old man teaching a boy how to make a bow and a few women teaching girls how to crochet a billum, the dillybag in which women carried anything from yams to babies. An interesting difference between the two teaching situations emerged. While the old man accompanied his demonstration of how to trim a length of bamboo with a piece of broken glass, he told the boy that with this new skill he would be able to hunt for food for his family and made other similar motivational remarks. However, the women and girls worked in silence as though talk had no place in this process. It would be interesting to research the possibility that there were genuine cultural differences in informal teaching methods here.

Our stay in Muglamp was spiced up one night when a local policeman in mufti knocked on our door. Max answered the door, whereupon the constable asked if Max would drive him into Mt. Hagen. Our car was the only one in the village. Max was a generous person and would normally have obliged but so unusual was the request that he suspected that something dangerous had happened and so refused. The policeman seemed very nervous, if not fearful, and persisted with his request. However, Max stood firm and finally the policeman went away. Bedtime eventually came and sleep soon followed - but not for long. I was awakened early in the morning, well before dawn, by a strange wailing sound, which gradually grew louder and persisted for hours. Daylight brought with it the sight of many people walking slowly towards and through the village wailing eerily. Eventually we learned that early in the previous evening, the son of the chief of the local tribe and some mates had asked the constable if they could borrow a truck that had been impounded in the police station yard to drive into Mt. Hagen. The constable acceded to the request. Tragically, the son overturned the truck on the return journey later that night and was killed. Once the full story was out, the policeman was immediately regarded as being complicit in the death and, therefore, subject to "payback", a particular element of tribal justice in PNG, in which an eye for an eye and a tooth for a tooth was the rule. We were later told that the policeman had escaped by being confined to Mt. Hagen hospital on the grounds that he had a broken leg. It was unlikely that he would remain in this part of PNG when he "recovered". Moreover, had Max helped the policeman escape, all of us would have been judged to be complicit in the tragedy and therefore subject to payback. We admired Max's perspicacity and strength of will no end.

Back at Macquarie, I had the help of research assistants and typists and produced an interim report (Dunkin, 1976c) and a final report (Dunkin, 1977). The lessons were coded in terms of two main classes of variables, *pedagogical moves* and *types of thinking*. Pedagogical moves were of five types defined by Graham Nuthall (1970) and his colleagues at the University of Canterbury in New Zealand. They were *monologues*, *structuring*, *soliciting*, *responses* and *comments*. Types of thinking were of two main categories, *logical operations* and *degree of concreteness/abstractness* apparent in pedagogical moves. These last concepts were considered to be particularly pertinent to the quality of the intellectual climate of

classrooms and, therefore, to children's cognitive development in them. The plan had been to research the connections that might have existed between these cognitive aspects of the lessons observed and the children's performance on cognitive development tests being applied by Max to the same children. However, that did not happen because the types of tests applied in Max's research did not allow for individual "scores" to be awarded to children on the tests. The tests were more qualitative than quantitative. They were applied individually and allowed judgments to be made about stages attained on specific tasks. They allowed judgments to be made as to whether a child could "conserve" or not. They did not allow for percentages of correct answers to, for example, 20 problems to be calculated. With more time to plan the project than had been available, we might well have arrived at a solution but that would have demanded much more knowledge of the research backgrounds we each brought to the study. That is one of the problems in specialism - the more specialised one is the more difficult is cooperation across boundaries.

Most of the findings of this study had to do with *process-process* relationships - connections between teacher behaviour and pupil behaviour during the lessons. The only possible *product* variable was the rank order of students on the previous term tests. The trouble with these was that any relationship that might be discovered between teacher behaviour and student place-in-class on previous tests might be due to the influence of the latter on the teacher's behaviour rather than vice versa. There might have been *expectancy effects*, such that on the basis of prior student test performance the teacher developed expectations for individual students and treated them differently as a result. Thus, any suspected *process-product* results in this study had to be interpreted cautiously.

At one stage I wondered about the relationship between socio-economic status and school achievement in this sample and how one might measure socio-economic status there. No problem, I was assured. SES was indicated by the necklace men wore showing the number of pigs they owned. A secondary measure was the number of wives they had!

In spite of the problems mentioned above, interesting and unique results were achieved in this study. They were summarised thus:

...At all grade levels more [pedagogical] moves were off the subject in mathematics than in social studies, but especially in grades 1 and 4. ...[In addition] teachers seldom had to make negative comments, such as criticizing pupils or telling them they were wrong. In both subjects, in grades 4 and 6, the great majority of moves occurred without reference to concrete materials or representations of them. Instead, these lessons relied almost entirely on linguistic and mathematical symbols. It was, however, very different in both subjects in grade 1 lessons. There, the social studies lessons made considerable use of personal experiences, pictures and charts. Grade 1 mathematics lessons stood out for their considerable use of concrete objects, such as blocks and bottles.

In grade 6 social studies and mathematics lessons it was found that the more complex logical operations of evaluation, classification, comparing and contrasting, conditional inferring and explaining were much less likely to be accompanied by representations and concrete objects than were the more simple logical operations [e.g., describing, giving examples, stating, reporting].

However, the association was reversed in both subject areas in grade 4 and in mathematics in grade 1...To this extent, learning experiences in the grade 6 lessons were very different from those in grades 1 and 4.

Finally, ...[c]hildren who were ranked in the top half of their class were found to have interchanges with teachers in the first half of lessons much more than the other children who tended to have their interchanges postponed till later on. This was found for all grades combined and for both subjects combined. Furthermore, children ranked in the top half of their class had more interchanges with the teacher than the other children. This, again was found for all grades combined and for social studies lessons in particular.

However, there was little or no difference between highly ranked and other children in the types of logical operations or the concreteness/abstractness of their interchanges with teachers. (Dunkin, 1976c, pp. 5-9)

The report finished with a discussion of the implications of the findings for teaching and teacher education and these could have been useful. However, the main purpose of contributing to knowledge of links between teaching and children's cognitive development was frustrated. Seventeen years later I returned to Port Moresby to participate in a meeting of the Faculty of Education of the University of Papua New Guinea (Dunkin, 1989a). I was pleased to present the faculty with copies of the transcripts of the lessons I had recorded in 1972. At Macquarie, my colleagues and I had found such transcripts very helpful in teaching student teachers about teaching.

By the time the reports on the PNG study were published, I was back in Australia after a period of study leave in Scotland at the University of Stirling. On Bastille Day, 1975, the Dunkin family boarded a Royal Thai Airlines jet for a stopover in Bangkok on the way to London, and eventually Stirling. I can remember shouting "*Marchons, mes enfants!*" as we boarded the plane. In Stirling, I met Donald McIntyre and Arnold Morrison who had recently published two books that firmly established them as kindred spirits with me. On the day after we arrived, the first annual conference of the British Educational Research Association (BERA) began. I had been invited to present a paper at the conference but raised some eyebrows by acting the part of an "Australian abroad" and telling a story about Madame Lash, a notorious figure from Sydney's Kings Cross. I was reminded of my misdemeanor for decades afterwards but the substantive nature of my address was never mentioned! My paper was subsequently published in BERA's in-house publication (Dunkin, 1976a) but the Madame Lash story was omitted. It was at this conference that Neville Postlethwaite introduced himself to me. That was an auspicious meeting.

Later on I was invited to participate in a BERA seminar on systematic observational research in classrooms held in Ware, not far from London. The advantage of this seminar was that I was able to meet everyone in the UK working in my speciality. My paper was subsequently published in the British Journal of Teacher Education (Dunkin, 1976b). Prior to the seminar, I was asked to discuss my paper with Ned Flanders, famous pioneer in this field, so that we might coordinate our efforts. Ned and his wife, Mary, were visiting the University of Lancaster. It gave me great pleasure to meet them and to commence a friendship that did not get off to a good start when it was revealed that Ned had been offended by the treatment Dunkin and Biddle (1974) had given his work. Nevertheless, we became good friends and saw each other often in the following years, once aboard Chacmool, the Dunkin family houseboat, and many times in the USA. Iris and I even spent Christmas, 1985, in the Flanders' house at 1 Spyglass Hill, Oakland, California, where we were able to look straight out to the Golden Gate bridge in the distance. Tragically, some years later the house was burnt to the ground in a bushfire possibly fuelled by Australian eucalyptus trees. When Ned and Mary set about rebuilding the house exactly as it had been they ran into difficulties because fire regulations understandably had changed. We were

able to send them photographs we had taken of the interior of their house during Christmas, 1985, and we hope that helped in the restoration of the house they loved so much.

Ethnicity in the Classroom

Soon after celebrating Hogmanay at a hunting lodge on Loch Rannock with our Scottish mates, we returned to Sydney via Singapore. Back at Macquarie, Stan Doenau and I decided to do a study focussing on ethnicity, which had become a trendy issue in educational debates. We wondered whether students of varying ethnic backgrounds in Sydney had systematically varying experiences in classrooms. If so, we also wondered whether such differences might have been related to their school achievement and other characteristics. Given the controversies surrounding the civil rights movement in the USA, one might have expected that the experiences in classrooms of children of varying ethnic backgrounds would have aroused much interest in classroom research. However, Bruce Biddle and I discovered only one study of that kind by the end of 1970. By 1975, Gay (1975) had discovered only five. It seemed that the rapidly accumulating literature on school integration, multicultural education, and bilingual education had only very little guidance from the results of classroom interaction research.

In March, 1978, my brother, John, died from a heart attack while holidaying with his family at Burrill Lake on the south coast of New South Wales. He was the second male in my family to die that way in the mid-forties. I felt the threat of a similar fate waiting for me, aged 42, already diagnosed with high blood pressure. Dick Seddon, then Head of the School of Education at Macquarie University, must have sensed this and virtually ordered me to take three weeks off by visiting Graham Nuthall and his colleagues at the University of Canterbury in Christchurch, New Zealand. That was a wonderfully therapeutic rest, for I was well looked after by my Kiwi colleagues. I remember one Saturday when Graham and two of his children took me skiing. I had been on skis only once before, in 1961. I wore borrowed oilskins and rented boots and skis. The Nuthalls, highly proficient skiers, headed straight for the ski tow and left me on the beginners' slope all alone. All I could remember was something called "snow-ploughing" but I had never learnt to do even that elementary manoeuvre. It would have come in handy when I found myself sliding out of control directly towards a group of blind children having their first adventure on the snowfield. There was nothing for it but to bale out and fall over sideways. Such ignomy was too much for me, so I spent the rest of the day sweltering in the oilskins on a warm, sunny day waiting for my companions to return from the high slopes. I vowed I would never go skiing again and I never have. Indeed, I loathe the very sight of snow.

By the time we had finished gathering the data for the ethnicity study, I was off on a new adventure. In December, 1978, the Dunkin family headed for Palo Alto, California, on study leave again, so that I could take up a position as Visiting Scholar in the School of Education at Stanford University, or to give it its full name, Leland Stanford Junior University. It was not a junior university; Leland Stanford junior was the son of Leland Stanford senior. My main purpose there was to analyse the data gathered in the ethnicity project. My sponsor in this enterprise was Nathaniel Lees Gage, the editor of the American Educational Research Association's first edition of the *Handbook of Research on Teaching* which had been very useful during my PhD research. Bruce Biddle had introduced me to Gage in New York in January, 1971, not long after we had embarked on the Dunkin and Biddle (1974) project. Nate did not remember that introduction but he certainly remembered the book. In 1978, his latest book, *The Scientific Basis of the Art of Teaching*, was published. He had sent a draft of it to me for comment and in the Preface acknowledged my contribution along with 14 others he described as his "friends and colleagues". In the text he made considerable use of the tables of results Biddle and I had developed but as examples of what not do, in his view. His argument, basically, was that

we, like other reviewers, had misrepresented the contribution of research on teaching by emphasising the lack of statistically significant findings and ignoring the possibility of Type 2 errors, those that led to the rejection of a hypothesis that was true. Nevertheless, we got on very well together during our stay in Palo Alto and Stanford.

Nate and his wife Maggie invited us to a dinner party. The first course was artichokes:

These leafy, green, spikey, abrasive looking things were served on a plate with some kind of sauce, without knives or any other type of implement. MJD watched to see what others did with them. He saw a couple of people tear off single leaves and direct them towards their mouths and so he followed suit. In went the whole leaf and he began chewing. It was like eating a paper serviette (napkin to our American friends). Later, it was explained that one did not actually put artichoke leaves into one's mouth. One merely ran the leaf over the edge of one's bottom teeth so that a juice was extracted on to the tongue! That explained why the separated leaves were to be seen on the plates and could not, therefore, have been chewed and swallowed as MJD had done with one or two! (Dunkin, 2000, pp. 92-93)

The Gages and the Dunkins became good friends during this time and our friendship grew over subsequent years.

When I returned to Sydney early in 1979, I wrote a report on the ethnicity project that was subsequently published in the Australian Journal of Education (Dunkin & Doenau, 1982). In the report, Stan and I provided a theoretical orientation and graphic model that were interesting to compare with earlier statements because they offered an elaboration in the form of an explicit indication of just where covert behaviour, such as thought, might fit. We wrote as follows:

Students' characteristics, such as ethnicity, seem to be capable of influencing classroom interaction between teachers and students in two main ways: first, by directly affecting the behaviour of the students themselves; and second, by acting as a stimulus for the behaviour of the teacher. Direct effects of ethnic background upon student classroom behaviour may occur by virtue of culturally-derived learnings concerning such attributes as initial language, sex roles, values, and preferences. Difficulties in understanding and speaking the language of instruction, for example, may produce low rates of verbal participation, inattentiveness, and non-conformity to classroom rules. Similarly, culturally-defined norms for adult-child relationships may affect the extent to which some students initiate interactions with teachers. Behaviours thus displayed as a model leads to the general prediction that student ethnicity affects the classroom behaviour of both students and teachers. (p. 172)

The statement did not end there, for it went on to suggest how teachers' perceptions, expectations, attitudes and feelings, formed through prior experience with students of different ethnic backgrounds, can influence teachers' current behaviour directly.

Thus, teacher and student thinking variables were made explicit, though not researched in this study. Teacher thinking was one of the fastest growing areas of interest among researchers on teaching at that time and is represented in Figure 4 as *information processing*. In order to facilitate comparison, one of the lessons taught as part of the 1972 study for Stan Doenau's PhD (Doenau, 1977), "*Some Problems of Timor*", was chosen for this study. The 1978 sample of classes was selected from inner city schools in Sydney so

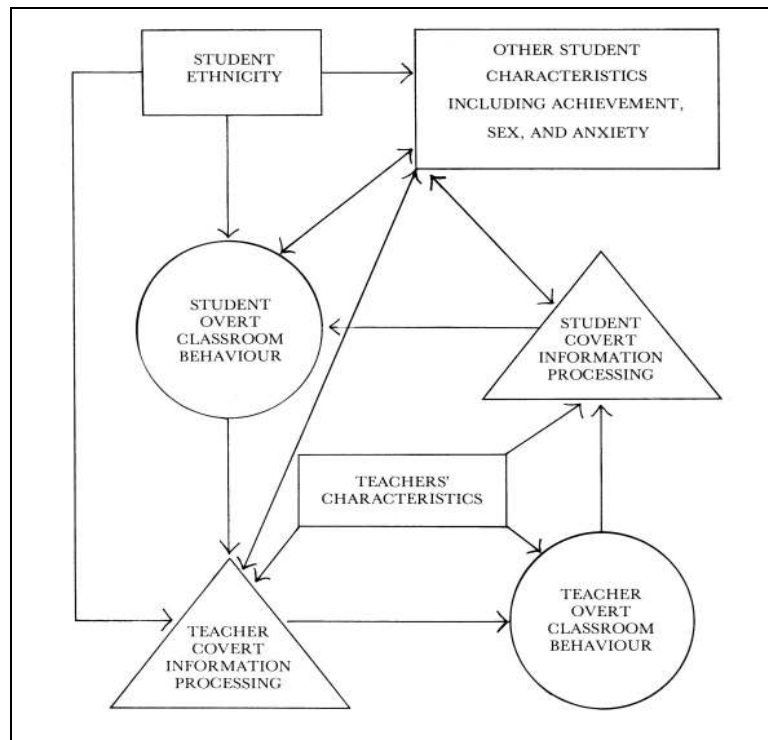


Figure 3:4 Model employed in the ethnicity project

that they would be likely to have significant proportions of students of non-Anglo ethnic background. Nine Year 6 classes from four schools participated and complete information was gathered from 197 students. Anglos were defined as those who considered their family to have an identity associated with a country in which English was the dominant language. The rest were classified as non-Anglos. There were 152 students from the nine classes in the non-Anglo group and 45 in the Anglo group. In order to control for differences in sex and ability, pairs of Anglo and non-Anglo males and females were selected from within each class to comprise the classroom interaction analysis sample. Since matching was done within schools that were of relatively low socio-economic status, it was assumed that both groups were of that SES. Other procedures were identical to those used in the 1972 study. Only those parts of the lessons involving the 43 matched pairs were coded and process variables studied were those of the earlier study. As well as ethnicity, age, sex and general ability, the same achievement tests as in 1972 and a test of student anxiety were also applied. On those measures, the sample of matched pairs was found to be representative of the total sample of students.

The only significant difference found in the analysis of student characteristics prior to the lessons was that female students were higher in anxiety than the males. Analysis of the classroom interaction variables of the matched pairs revealed that the non-Anglo females received a disproportionately low share of teachers' questions and that they initiated interactions themselves much less often than their numbers warranted. Consequently, they made less than half their share of responses of all kinds, except rejected responses, and received less than half their share of teachers' reactions of all kinds, except negative ones. Furthermore, less than half the expected proportion of interactions involving them were concerned with the content of the lesson. In contrast, the Anglo female students participated in close accord with the expectations based on their numbers. No such differences were found for non-Anglo males, however, for they outdid their Anglo counterparts on several aspects of classroom interaction. They received a higher proportion of their teachers' positive reactions and content-related interactions than their Anglo peers and than was to have been expected on the basis of their numbers. In spite of these differences, however, no

significant differences were found according to sex or ethnicity or the combination of the two on the tests of knowledge and critical thinking at the end of the lessons.

In all, sex seemed a much more influential factor in classroom events than ethnicity in this study. But those differences seemed not to be to any group's advantage or disadvantage. Maybe being directly involved by asking or answering questions or receiving reactions of any kind from the teacher is not important in the short term, at least.

Maybe much of the learning that occurs in classrooms occurs vicariously and students learn effectively by witnessing events rather than overtly being part of them. Then, of course, there are below the surface occurrences that classroom observers just do not spy very often. In one of these lessons, for example, I accidentally overheard a boy threatening to rape a girl during recess! The microphones did not pick that up. How distracting might such an event as that be?

These types of private, micro-occurrences seemed not to interest researchers in classrooms much until the end of the 1970's when Adrienne Alton-Lee and Graham Nuthall began their work at the University of Canterbury in Christchurch, New Zealand. I examined Adrienne's PhD thesis in 1977 and had the pleasure of being present at the oral examination she endured so well early in 1978. Unfortunately, it was a long time before their work was published (Alton-Lee, Nuthall & Patrick, 1989; 1993).

By the time I had finished my work on the ethnicity project my slate was clean and so I became available for new projects. The first cab off the rank was an invitation from Dr. Hedley Beare, Chief Education Officer of the Australian Capital Territory (ACT) school system, whom I had met early in my Stanford days. He was there on a Harkness Scholarship studying educational administration and had recently taken up golf. Stanford had an excellent golf course and so Hedley and I played several enjoyable games together. Of course, that had nothing to do with the invitation I subsequently received from the Chairman of the ACT Schools Authority to become a member of the Committee to Review Primary Education in A.C.T. Government Schools. After Macquarie Uni. gave permission for me to be released for the work, I accepted the invitation and so 1980 began with a meeting of the committee in Canberra in January. Committee meetings, visits to schools, interviews, public meetings and many other activities occurred throughout that year, and took up 43 days in all. The Chairman of the committee was Phil Cullen, Director of Primary Education in Queensland, whom, coincidentally, I had taught when I was in charge of a course on the history of educational thought as part of the Diploma of Educational Administration at the University of New England in Armidale in 1967. Phil established a very friendly atmosphere among the members of the committee, which functioned very well. He and his wife, Edna, became very good friends of the Dunkins and they remain so to this day, 30 years later. The report containing the committee's recommendations was completed early in 1981, shortly before my new life was to begin.

The International Encyclopedia of Education

Towards the end of 1980 I received a letter dated 26 September, 1980, from Peggy Ducker, Editorial Director at Pergamon Press, the publishing firm founded by Robert Maxwell. She wrote on behalf of Professor Torsten Husén and Professor Neville Postlethwaite from the Universities of Stockholm and Hamburg, respectively, to invite me to become a Section Editor of the *International Encyclopedia of Education: Research and Studies* (Husén & Postlethwaite, 1985). The section concerned was to be *Classroom Instruction and Teacher Training* and as this was expected to be the biggest section of the 13 sections proposed, I was to have a Co-Editor who was to be Professor Gilbert de Landsheere, a francophone Belgian from the University of Liège. This took me completely by surprise and I wondered

how it came to pass that I was selected for this job from the rest of the world! I noticed some years later that one of the Honorary Editorial Advisory Board that had identified the 13 major subject areas for the encyclopedia was Nate Gage from Stanford. Then, of course, there was Neville Postlethwaite, who had introduced himself to me at the first annual conference of BERA at the University of Stirling, back in 1975.

I had met Torsten Husén in Australia in 1971 at the first annual conference of the Australian Association for Research in Education (AARE) at the Broadbeach Hotel on Queensland's Gold Coast. He presented an invited address and I was the Secretary of AARE. Chickens had come home to roost, it seems. Added to these friends in high places was the fact that I was neither British nor American and so could be seen to lend authenticity to the international character of the encyclopedia. Of the other section editors, four were from the United Kingdom, four from the USA, one was from Canada, one from Israel and there was one other from Australia. That there were two Aussies was a feather in our national cap. The other Aussie was Dr John Keeves, Director of the Australian Council for Educational Research, whose doctorate was from the University of Stockholm! Friends in high places, indeed. The only thing I was unhappy about was the name of the section. "Instruction" and "training" were unacceptable terms for my areas of interest. I would see to it that they would be replaced by "teaching" and "education", so that the title would become "*Teaching and Teacher Education*".

After a brief period of deliberation, I wrote to accept Pergamon's offer on 9 October and in due course received a contract, instructions for Section Editors and news that the inaugural meeting of them would be in the Bahamas on 16-20 March, 1981. I then set about a draft design of the section, in consultation with Gilbert de Landsheere, for discussion at the Bahamas meeting. My colleague, Don Levis, Deputy Director of the Teacher Education Program at Macquarie, helped me at this stage by commenting on my drafts and suggesting entries that I had omitted.

Chapter 4: University of Sydney Research

Before the Bahamas meeting on 2 February, 1981, I took up a new position at the University of Sydney as Director of the Centre for Teaching and Learning, which I was to establish. Macquarie University did not think I was suitable for Chairs it had advertised and it was clearly time to move on. The University of Sydney had been trying unsuccessfully for several years to establish its planned academic staff development unit and so I decided to apply at the suggestion of Professor Cliff Turney, then Head of the Department of Education there. Cliff was an old friend with whom I had worked on an earlier publication on microteaching in teacher education (Turney, Clift, Dunkin & Traill, 1973). The Vice-Chancellor of that university was Professor Bruce Williams (soon to become Sir Bruce Williams), who was so desperate to fill the position that he came to interview me in my office at Macquarie University! At least that is what I egotistically thought. However, Professor Williams explained that he was coming to Macquarie University anyway and decided to kill two birds with one stone!

The story of my appointment to that position has been told elsewhere (Dunkin, 2008). I was not given the title of Professor because, so the Vice-Chancellor said, I had nothing to profess! That was the greatest piece of sophistry I had ever heard, and so I was appointed at a salary of \$1,000 less than professorial salary, which I was paid after one year. Almost immediately after arriving, I applied for six weeks leave to pursue a number of tasks, one of which was the Bahamas meeting. Leave was granted and accordingly I arrived at the Holiday Inn, Casuarina Drive, Pirates Cove, Paradise Island, The Bahamas (the most romantic address I had ever seen) on 12 March, before attending the annual meeting of the American Educational Research Association (AERA) in Los Angeles. Next morning, Friday, 13 March, a somewhat threatening date, I met Gilbert de Landsheere, who had responded to my draft design by writing that I had done "a marvellous job". I knew immediately that Gilbert and I would get on well together! And we did!

The meeting of editors went very well and my design was approved with few changes. The change in title of the section was also approved and duly became *Teaching and Teacher Education*. Barbara Barrett was there as the Managing Editor of the encyclopedia. We were to become good friends over the coming years. The section finally contained 165 entries and was easily the biggest in the encyclopedia. I was responsible for 159 of them and wrote seven, including one that I co-authored with dear friend and colleague, Bruce Biddle. I used to spend the hour from 5 - 6pm every day dealing with correspondence generated by the encyclopedia and many more hours at home at night once the draft entries began to arrive. The 10-volume work was launched on 2 April, 1985, at the annual meeting of AERA in Chicago. I was in England on yet another six months study leave at the time and was unable to attend, for I was fully engrossed in a spin-off, single volume encyclopedia by then.

Domestic Politics

Meanwhile, back in the Centre for Teaching and Learning (CTL) these early years saw us fighting to establish ourselves as a legitimate part of the institution. My job in the Centre for Teaching and Learning was a lonely but onerous one, especially in the first year, for Alwynne Morgan, my secretary, and I were the only ones there. She soon made it known that I should give up smoking the occasional small cigar, even though she had a separate office. As if to compensate, she used to brew me a pot of tea every afternoon and I was never game to tell her that I had milk in my tea. I just drank it down and tried to look grateful. Our temporary location was rather remote from the more active parts of the university. It was a suite of offices in the basement of the stacks of the Fisher Library. I could not complain, because the Chancellor, Sir Hermann Black, made do with the next

door office. However, renovations to more central accommodation were finished before the end of 1981. It was in what had been the Commonwealth Scientific and Industrial Organisation (CSIRO) building just inside the City Road gate. Much of the opposition to the CTL was surreptitious and, therefore, impossible to combat, unlike the following letter.

**The Editor,
Sir,**

I was interested in the review by the Director of The Centre for Teaching and Learning of his Stewardship during his first six months in office. (*News* 28 July 1981). To me, it seemed to confirm the worst fears which various members of the Academic Board entertained about the establishment of the Centre. As is generally known, it was established as a result of a decision taken by Senate on the advice of the then Vice Chancellor and against the advice of the Academic Board.

We learned from the article that the Director is supervising two Ph.D students (and that there are more to come), that he has "resources not available in the departmental libraries or in Fisher Library" and that he has \$60,000 to *administer* (my italics) for grants over a whole range of projects". These pieces of information must surely raise the blood pressure of those members of staff who are struggling to maintain traditional university activities "during the seven lean years" (which some pessimistic souls do not believe will be limited to seven).

Dated 10 August, 1981, from someone in the Department of Agricultural Economics, it was a protest about some of the things I had said in an interview by the University News, published on 29 July, 1981. My reply appeared on 15 September, 1981, and was intended primarily to take the opportunity provided to advertise the Centre for Teaching and Learning. Needless to say, we never heard from him again. No doubt he continued to smoulder.

**The Editor,
Sir,**

I wish Professor K.O. Campbell would let us know clearly just why my supervising Ph.D students, having some scarce resources, clarifying some ideas about the Centre's role, and concluding that incentives work better than threats should raise anyone's blood pressure.

As for the 'fears which various members of the Academic Board entertained about the Centre', I am sure that in many cases there were, and still are, sincere and important concerns about the Centre. What is more, I think there ought to be. The main trouble with Professor Campbell's letter is that it tends to trivialise those concerns by including unsubstantiated claims that the 'worst fears' have already been confirmed.

I hope the Centre will be able to help in the maintenance of traditional university activities and in establishing innovations. If Professor Campbell would like to be fully informed about the Centre he is welcome to contact me. We are now located in rooms G38-G42 of the Madsen Building. Our phone number is 692-3725.

**M.J. Dunkin,
Director, Centre for Teaching & Learning**

As for Professor Campbell's reference to my supervising Ph.D. students, I was delighted that Aria Djalil, whose Ph.D. I had been supervising at Macquarie University, wanted me to continue in that role and was able to transfer his candidature to Sydney University. He completed one of the most impressive experimental studies of teaching and learning undertaken anywhere in the world and his data were unique in that they were gathered in Indonesia (see Anderson & Djalil, 1989). Dr. Djalil returned to Australia several years later as the Indonesian Embassy's *Attaché* for Cultural and Educational Affairs, and at home occupied several very senior positions in higher education. His success could only have brought credit to the two Australian universities at which he studied.

I was fully occupied by attempts to attract staff and visits to the various academic departments of the university to explain my plans for the centre and to allay the many suspicions they held. 1981 would not have been a very productive year in terms of research except for the very special invitation I was soon to receive. However, by the time the academic year began in 1982, two new members of academic staff, Jacqueline Lublin and Michael Prosser, were on board and we were able to begin staff development activities.

Because we were not a teaching department in the normal sense, we were not represented on the Academic Board or any of its committees. We were the business of a Deputy Vice-Chancellor, in the beginning Professor John Ward, who had lectured in first year History, which I failed, in 1953. Indeed, it became clear that the Vice-Chancellor who had gone out of his way to interest me in the centre, had moved on to deal with other matters. I spoke to him only once after my arrival and he retired during the first year of my tenure. With seemingly little support from the top and no representation on the most important policy making bodies of the University, I felt threatened and insecure. It was therefore crucial that we win respect as researchers just as strongly as we needed to win respect as staff developers. To that end we needed to design research projects that would win funding from the Australian Research Council. That would be difficult as a newly established part of the university, without a reputation in research in higher education. For the same reason, it would be difficult to obtain research funding from within the university. Therefore, I appreciated the opportunities provided by Pergamon Press greatly. My work with them would reflect well on the Centre for Teaching and Learning.

Research on Teaching in Higher Education

Not long after I had taken up my position, I received an invitation to write the chapter on research on teaching in higher education for the third edition of the *Handbook of Research on Teaching* to be edited by Merlin Wittrock from the University of California in Los Angeles (UCLA). This was a great honour and, once again, I detected the influence of Nate Gage, who had edited the first handbook, published in 1963. I immediately accepted the invitation and applied for a research grant from the university to help in conducting the necessary literature search. I was awarded \$3000 and employed Jennifer Barnes as my research assistant. I was launched into a project to conduct a meta-analysis again. I had two years to produce the chapter and met my deadline (Dunkin with Barnes, 1986). The chapter used the conceptual framework used by Dunkin and Biddle (1974) in organising the research reviewed but was unable to rely exclusively on observational methods used in the research to define teaching processes. That was because most of the research did not use observational techniques. We had to use a wider definition of processes, for example, by including claims that "lecturing" was the method under consideration without being sure of the precise behaviours included.

One of the reviewers of the final draft was Professor Wilbert McKeachie of the University of Michigan, Ann Arbor. He had written the corresponding chapter for the first edition of the Handbook, 20 years earlier and was an icon in the field. His suggestions for revision of

the draft were most helpful and he finished up describing the work I had completed with the help of Jennifer Barnes as "excellent". The new Handbook was published in 1986 (Wittrock, 1986). I then had good credentials as an expert in the field of research on teaching in higher education. With all this happening in 1981, it was no surprise when I had my first attack on *angina* soon after I returned from the six weeks in the USA and Canada. I have to confess that I was scared.

Research on Teachers

All the reviewing of research and editing for the encyclopedia almost precluded my doing the job for which I was being paid as Director of the Centre for Teaching and Learning. However, without more staff, I could not have expected to achieve much in that direction, anyway, let alone conduct new research. Fortunately, early in 1982, I happened upon a project that was to prove quite successful and very inexpensive. The University of Sydney News used to publish information about new academic staff appointments, as well as the names of lecturers who had been granted tenure and promotion and those who had resigned. Academic Board papers contained information about qualifications and so on. The questions that arose in my mind were about the induction of new academic staff into the institution. In Australia, the induction of new academic staff in universities had been recognised as an important issue by the Australian Vice-Chancellors' Committee (AVCC, 1981). However, only one research paper (Barrett, Katz & White, 1974) was to be found on the topic of induction in the Australian higher education context.

With the help of two research assistants, I ended up collecting data on all 85 of the new academic staff appointed as tenured or probationary lecturers between the beginning of 1981 and the end of 1984 to the University of Sydney. Of those, 55 were found to be representative of the total on background variables and were interviewed. The purposes of the interviews were: (a) to verify information obtained from other sources mentioned above; (b) to obtain reports on their early experiences in the new positions at the university; and (c) to tap their ideas about priorities regarding teaching, research and other activities, and beliefs about teaching itself. Opportunities to obtain student feedback on the participants' teaching were provided following the interviews and were repeated the following year. Follow-up of those who accepted the offer sought opinions on the usefulness of that feedback.

In the eyes of the university, the induction process must have appeared very successful for over 90 percent of the probationary lecturers became tenured by the time their three years probation had expired. What were the reactions of the new lecturers to their reception in the university? The conclusion of the report on this study (Dunkin, 1990d) was as follows:

The majority reported that they had received special consideration in workload and that their new positions allowed them to do what they wanted and the probationary Lecturers, in particular, became aware of unexpected opportunities and advantages.

... The most frequent complaint was lack of information about the administration of the university. Suggestions for improving the induction process most commonly were that there be more effort to explain the structure and organisation of the university.

Only a minority of the Lecturers (14) reported that they had engaged in development activities such as workshops and seminars since their arrival and on the whole, attitudes towards teaching seemed to be rather negative. ...[T]eaching tended to be seen as a 'chore' and, to some, an obstacle that

inhibited their research. The most frequently mentioned frustration was in terms of not enough research and/or publication. No one complained about not enough teaching! (p. 64)

The only evidence that induction experiences had been designed to take account of the lecturers' needs, defined in terms of their background qualifications, was a finding that those with doctorates on appointment reported receiving a lighter workload than others - the opposite of what might have been expected! However, those lecturers without doctorates, those without previous employment in the university, those who were probationary and those with less impressive publication records reported receiving help more than did the others.

Orientations to teaching

Of special interest to me was a section of the research concerned with *orientations to teaching*. It was considered desirable that induction experiences expand conceptual repertoires regarding teaching, persuade new lecturers that they had considerable influence on student learning, build confidence in teaching ability, and encourage lecturers to seek feedback on their teaching. Special consideration in terms of workload emerged as being associated with a broader conceptual repertoire concerning teaching and willingness to seek feedback on their teaching from students. The study of teacher thinking in higher education contexts was much younger and less voluminous than at lower levels of education. For example, in the third edition of the *Handbook of Research on Teaching* (Wittrock, 1986) there was a whole chapter on teachers' thought processes (Clark & Peterson, 1986) in which approximately 50 studies were presented, all concerned with teaching at grade school levels. In my chapter concerned with research on teaching in higher education (Dunkin with Barnes, 1986), however, not a single study of teacher thinking was presented and I concluded by recommending that teacher thinking become a focus for future research at that level. In this study I acted upon my own recommendation. That was fun!

1. Conceptual repertoires

Conceptual repertoires were identified in response to an interview question which required lecturers to state their beliefs about the most important ways in which they could enhance students' learning. Four *dimensions of teaching* were induced from the responses and are ordered here in terms of their frequency from high to low: (a) *teaching as structuring learning*; (b) *teaching as motivating learning*; (c) *teaching as encouraging activity and independence in learning*; and (d) *teaching as establishing interpersonal relationships conducive to learning*.

Most lecturers (33) mentioned only one of those dimensions, while 20 mentioned two and four mentioned three. No one mentioned all four. Examples of responses containing references to only one dimension are as follows:

Dimension A: *Try to explain simple things clearly, not too much too quick, especially in the early years. Give them a structure they can hang their ideas on. They need four years of really routine learning to get to a point where they can have really useful discussions.*

Dimension B: *Providing enough interesting material to maintain stimulation. Be sensitive to their attention span. Adapt classes to majority of attention span. Boredom is infectious!*

Dimension C: *Make them do and think about things. Make their learning active. Make them participate, not passively receive information. Passive reception is a poor way of learning.*

Dimension D: *Good communication and rapport with them.*

The number of these dimensions in combination was taken as a good indication of a lecturer's conceptual repertoire regarding teaching and larger repertoires were regarded as desirable. Induction processes that were associated with larger repertoires were considered to be more valuable than others.

2. Perceived power to influence

Lecturers' perceptions of their power to influence student learning, were regarded as important in relation to their motivation to engage in teaching development activities. It was argued that "*if one believes that no matter what one does it is not likely to make much difference to students' learning, then one would find it difficult to justify expending much time and effort on teaching*" (Dunkin, 1990d, p. 59). Only nine percent thought they had only a little influence but there were many caveats, usually involving conditions under which the teaching occurred.

3. Perceived competence

The lecturers were also asked to rate themselves on nine teaching tasks, such as:

a. *Selecting subject matter for a lecture that most students are able to follow;*

and

b. *Eliciting lively and worthwhile discussions among students in tutorials.*

It was no surprise that the lecturers considered themselves more competent in tasks concerning knowledge of subject-matter and acquainting students with the latest techniques in research, given their academic backgrounds. They were less confident about tasks involving pedagogical skills and that was not surprising since only a few of them had been trained as teachers.

4. Willingness to obtain student evaluations of teaching

Measurement of this variable was made on the basis of the number of offers by the Centre for Teaching and Learning to help in obtaining feedback from students. Several such offers had been made during this project. The 23 Lecturers who did not respond were awarded a score of 0, while the 19 who participated once and the 11 who participated twice were awarded scores of 1 and 2, respectively. In addition, these lecturers were asked to rate the usefulness of the feedback they received from students. Approximately 90 percent rated the reports they received as either of "some help" or "very helpful". The issue of the place of student evaluations in university teaching would return for my attention in the near future.

Finally, the evidence that the lecturers' orientations to teaching had benefited from their early experiences in the university was not strong. There was some indication that reduced workloads were associated with broader conceptual repertoires and positive attitudes towards feedback from students. In addition, there was some evidence that development activities were engaged in more by those needing self-assurance in teaching than by others.

The International Encyclopedia of Teaching and Teacher Education

At the conclusion of the authoring and editing process of the 10-volume work, Pergamon Press apparently held an informal plebiscite among its encyclopedia staff, who nominated me as the best of the Section Editors from their point of view. That probably meant that I had made their lives easier by getting stuff to them on time better than the rest. The upshot

was that I was invited to plan and edit a single volume encyclopedia of teaching and teacher education based on the relevant entries in the main work. I accepted the invitation and obtained leave to spend three weeks in Oxford working on the proposal. I left Sydney on 19 May, 1983, for Hong Kong, where I spent some time in the company of Gerry Mayer, Pergamon's Manager in Australia, before arriving in Oxford on 22 May. The next two weeks were very busy, containing many meetings, including one chaired by Robert Maxwell himself, during which my plans for the new encyclopedia were approved. In addition, a discussion occurred concerning the potential benefits of a new international journal of teaching and teacher education. This ended with the approval of the idea and the appointment of me as founding editor (see Appendix C). As such I was commissioned to provide a list of scholars in the field who would be surveyed regarding the need for such a journal and write a draft statement of the aims and scope of the journal. I finished these jobs while in Oxford and returned home via Hong Kong on 13 June. By then it was clear that I had enough editorial work to satisfy me for the rest of my life. But it was to be some time before I would be free of encyclopedia obligations. Neville Postlethwaite was to edit another spin-off encyclopedia and persuaded me to write an entry for that one, as well (Dunkin, 1988a).

In 1985, after one month of study leave in New Zealand visiting centres like the one I directed at home and another six months study leave, mainly in England at Oxford and St. Albans, working on the *International Encyclopedia of Teaching and Teacher Education* (Dunkin, 1987b). That work was launched at the AERA meeting in Washington DC in 1987. I had used the following model in designing the new encyclopedia.

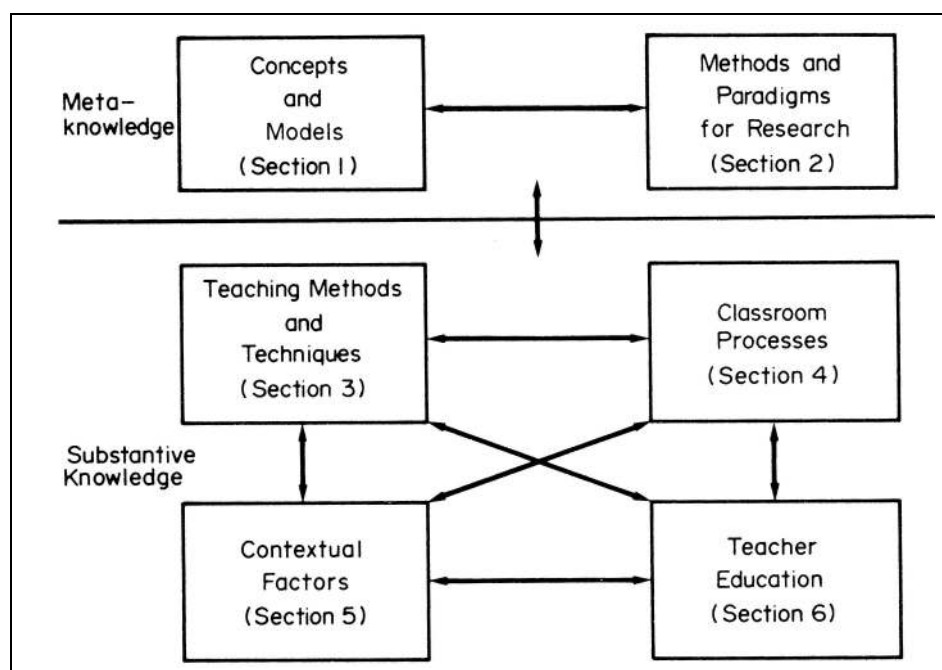


Figure 4:1: Model used in the new encyclopedia

Each element represented a section of the encyclopedia and each section was introduced with reference to the model and showed where in the model it fitted. It was to become the best seller of the several single-volume, spin-off encyclopedias that Pergamon "milked" from the original 10-volume work that by then had acquired two supplementary volumes.

In 1984, my colleagues, Jacqueline Lublin and Mike Prosser, and I twice flew to the Philippines to present workshops, first, on teaching methods, and then on course design, at Silliman University in Dumaguete on the island of Negros. Between those two visits I spent

Easter in New Orleans attending the annual meeting of the American Educational Research Association (AERA) and presenting a paper based on my draft chapter on research on teaching in higher education. Indeed, the session was listed as a "roundtable" which meant that people could come and sit down, ask questions, participate in discussion and leave whenever they wanted. During the whole of the session only three or four arrived and one said she had come just to see what I looked like!

Teaching and Teacher Education: An International Journal of Research and Studies

Volume 1, Number 1 of *Teaching and Teacher Education: An International Journal of Research and Studies (TATE)* appeared in 1985. However, its Editor was not I but N.L. Gage of Stanford University. I was the first named Associate Editor and Sara Delamont from University College, Cardiff, was the second. How come? Well, my friend and suspected sponsor, Nate Gage, to whom I had written about the new journal, had been invited to spend some time in Oxford. There he and Robert Maxwell had a discussion that culminated in Nate's being appointed Editor, on the grounds that he was a better known figure in this field and, as an American, would boost the sales of the journal in that biggest market of all. Maxwell rang me at midnight one night to announce all this to me with the promised compensation of a free trip to Europe or America every two years for my "missus" and me.

Gage later wrote his version of the founding of the journal (Gage, 1988) and was very generous in some of things he wrote about me:

The initial idea was that Dr. Dunkin would edit the journal, and I would chair the editorial board. This arrangement, however, was soon determined to be unwieldy, decentralizing authority undesirability. After further discussion, including transoceanic conversations with Dr. Dunkin, who was in Sydney, a decision was reached: I would be editor; Dr. Dunkin would be one of two associate editors. During a telephone conversation with Dr. Dunkin, I was convinced by him that the journal's name should give full standing to teacher education. Dr. Dunkin's idea - "Teaching and Teacher Education" - met all requirements and became the journal's title ...It is noteworthy that, a year later, when researchers in this field organized a new division of the American Educational Research Association, they named it the Division of Teaching and Teacher Education....

In addition to maintaining the journal's quality, Dr. Dunkin has appreciably reduced its publication lag, increased its use of expert referees, and appointed Dr. Robert Crocker as book review editor. He has also reported to the International Editorial Board the statistics on the journal's authors, papers, and referees. As of Volume 3, Number 4, the journal is thriving. Its papers have come from some 20 countries, and its subscriptions have come from even more countries. (pp.i-ii)

Appendix A presents his explanation. In May, 2004, the journal celebrated its 20th anniversary and I was invited to write about its history (Dunkin, 2004. See Appendix B). A close reading reveals a possible discrepancy between the two explanations concerning the survey of researchers' views regarding the need for a journal in this field. I doubt that there were two such surveys.

Gage was a meticulous, one might almost say compulsive, editor. To inspect a manuscript after Nate had worked on it was to discover a work of art. The trouble was that the author would have difficulty recognising it as her or his own after Nate had worked it over. This

added burden to Nate's already poor eyesight led to his collapse after only five numbers of TATE has been completed. Guess who took over? Muggins, of course! And there I remained for six years. Iris became my secretary and with the help of an excellent team constituting the International Editorial Board and Associate Editors we produced 26 numbers before I handed the reins over to Neville Bennett from the University of Exeter in 1992. I had spent an average of 20 hours a week for six years on this job and was not sorry to farewell it. In a sense it had been good for me, of course.

For example, I attended every annual meeting of AERA for those six years, and that gave me opportunities to meet dear friends, such as Donald McIntyre, from all over the world once a year. Professionally it was good for me, too, because I became closely identified with what was to become the best journal in the world in my special fields. One really excellent *lurk* of the association with Pergamon Press was a trip to Russia in 1985. In an effort to interest the Russians in the journal, Gage, Iris and I flew to Moscow to meet Mikhail Kondakov, head of the Academy of Pedagogical Sciences for the whole USSR, and his colleagues. Then we travelled overnight by train to meet people of similar status in Leningrad. That trip generated several good stories, mainly centred on Gage and his adventures. One involved a visit to nunnery to which unmarried princesses were said to retire. Both Nate and I needed to visit a toilet on the way around but we could not find a men's toilet anywhere. I recalled having passed a mobile toilet in the grounds, so we headed there, only find that the men's was locked. However, the ladies' was open and there were no ladies to be seen anywhere. Being rather desperate by this time, we conspired to develop a strategy that would save the day. Nate would stand guard while I made use of the ladies' and, in turn, I would stand guard for him. A precious possibility entered my evil mind. Imagine a photo of Nate Gage leaving a women's toilet in a nunnery in Moscow! I could not resist the temptation and readied my camera for the snap. Nate, even with poor eyesight, spotted me through a window, however, and quickly saw what I was up to. He walked backwards out of the toilet! I took the shot anyway and confronted him with the threat to tell everyone that I had a picture of him entering the toilet! Such fun!

In 1988, Pergamon Press celebrated 40 years in existence and Iris and I were invited to attend, all expenses paid. We attended a lavish lunch, along with a couple of hundred others, met lots of friends, were treated to another beautiful lunch at the Ramada Inn in London by Maggie and Nate Gage, and were able to take a trip up the Nile and spend a day in Athens on the way home.

TALKS TO TEACHERS

To Mess,
who is funny, wise,
honest, fair, good
company, brilliant at
editing and writing
and a precious colleague
in the field of research
on teaching,
Nate
4/24/87

By 2005, the journal had grown to such an extent that the number of issues per year had doubled from four to eight. In 2006 it became available in electronic form only. I remained a member of the International Editorial Board until 2007, when I decided it was time to retire. In 1987 a copy of the Festschrift to honour Nate Gage on his official (but far from actual) retirement by David Berliner and Barak Rosenshine (1987) was given to me by Nate. He inscribed it beautifully, as shown. That is something I cherish.¹

I became President of the Australian Association for Research in Education, which I had also helped found. As well as chairing meetings of the Executive Committee of AARE, I represented it at meetings to improve the funding of educational research in Australia and prepared a Presidential Address for the annual conference in Melbourne during November. The address, which was subsequently published (Dunkin, 1987a), was a critique of a report of the Commonwealth Tertiary Education Commission (CTEC, 1986) on efficiency and effectiveness in higher education in Australia. I lambasted the report for its gross neglect of research and ended on a highly critical note, as follows:

The Hudson Report might have been justified in regretting what it saw as a deficiency in the statistics on higher education in Australian and in supporting the proposal for a national centre to collect and disseminate such statistics. However, those responsible for implementing some of its recommendations are much worse off for the basic knowledge they require. The fact is that public knowledge of the processes of teaching and research at that level is appallingly meagre, not to say non-existent. In fact, there is nothing in the way of recent locally derived empirical evidence about the differences between more effective and less effective lecturing techniques, tutorial discussions, laboratory sessions, and clinical teaching. We know nothing from research about the planning, decision making or monitoring processes of teaching or research activities and are heavily reliant on meagre imported knowledge of just about every activity relating to all of the roles performed by academics. Much less then, are our educational developers and evaluators in possession of scientifically derived information about the effectiveness of their attempts.

Yet this report on the efficiency and effectiveness of the higher education enterprise, contains not a single formal recommendation that these processes that are most crucial in determining efficiency and effectiveness be researched.... (pp. 15-16)

Subsequently, I led a delegation to CTEC from AARE to argue for increased funding for educational research. The meeting was chaired by Hudson himself as Chairman of CTEC. During the meeting he mentioned the address dismissively, not realising that its author was before him. So much for my impact upon those in power!

Then, in 1987, I attended AERA's annual meeting in Washington DC. It was there that the *International Encyclopedia of Teaching and Teacher Education: Research and Studies*,

¹ Sadly, Nate Gage passed away on 17 August, 2008, just 16 days after he turned 91. On 16 August, my birthday, without knowing that Nate was ill, I sent him an e-mail to thank him for the friendship and career support he had given me over many years. (I used to wish him and "all the other thoroughbreds" a happy birthday on 1 August. He did not know until I told him that 1 August is deemed to be the birthday of all thoroughbred horses in the southern hemisphere.) He was too ill on 17 August, 2008, to have known about my last message to him. I was too late.

which I had edited (Dunkin, 1987b), was launched. In that year I was the Immediate Past President of AARE and volunteered to work with Susan Groundwater Smith of the Faculty of Education at Sydney University and Martin Cooper of the School of Education at the University of New South Wales on a committee to coordinate the Australian part of a joint annual conference to be offered with the New Zealand Association for Educational Research in Christchurch at the end of that year. That was a particularly enjoyable conference that was followed by a week's touring the south island with Maureen and Ken Sinclair. Life was hectic but very exciting.

Criteria for Staff Advancement in Universities

Normally, academics measured their chances of career progression on the basis of their academic qualifications and their research and publications. Also important were their reputations as teachers and supervisors and their ability to attract research funding. Other activities that might be considered were service to the institution and the community. During the 1980s, however, another factor, unfamiliar to me, was sometimes mentioned. It was *market forces*, that is, demand in nonacademic circles for the knowledge and skills found in some areas of academe. This was most clearly expressed in terms of salaries offered in the market place. Professions such as medicine had well-established strategies for dealing with such matters. Brilliant medical scientists and practitioners won joint appointments in universities and hospitals by being offered clinical professorships. Others were invited to become Adjunct Professors in a university. With the rise in the demand for business management and information technology, however, such devices had not been developed and competition was less subtle. Academic salaries could not compete with those offered outside. Tenure and promotion might have to be manipulated to favour those more in demand in business and commerce. What evidence might there be of market forces operating to favour staff in such "disciplines" at the University of Sydney?

The upshot of this line of inquiry was that an index was developed to measure the *marketability* of various fields of specialisation of staff in the 1981-1984 cohort. I had never dealt with these kinds of data before but received welcome advice from the Director of the Careers and Appointments Service (CAS) of the university. Measures were also devised for the following variables: publication record; time taken to achieve tenure; time taken to receive promotion to Senior Lecturer status; and whether or not resignation had occurred before promotion. (Dunkin, 1991a).

Some of the associations among pairs of variables were highly predictable and hardly worth mention, but some were especially interesting:

1. A higher proportion of men than women had doctorates on appointment and women tended to have lower scores on publication record than men;
2. Lecturers from disciplines with higher market forces tended to have less teaching experience and lower scores on publication record than others;
3. Probationary Lecturers who received tenure more quickly tended to be males from disciplines with higher market force ratings, and to have doctorates;
4. Lecturers who resigned before promotion tended to be women, and not to have doctorates.

Discussion of the findings of this study went as follows:

The formal criteria for academic advancement that appeared influential in this study differed somewhat from one career reward variable to another ... In terms of the initial tenure decision professional/work variables counted most - publications, teaching experience, and higher status employment

record within the university. However, none of those had a significant effect on attaining tenure by probationary Lecturers. In their case the market force value of their discipline appeared particularly influential. Academic qualifications, that is, possession of a doctorate came to the fore together with prior employment in a higher status position in the university to account significantly for resignation before promotion. Then, by the time Lecturers received promotion, a much wider set of variables operated and for the first time demographic characteristics in the form of age and gender emerged as significant, together with academic qualifications and scholarly productivity. These indications that different criteria operate prominently to influence attainment of each type of career reward are illuminating and need to be understood by both those seeking advancement and those bestowing it ...

The net effects of age and gender upon speed of promotion to the disadvantage of younger Lecturers and women Lecturers can not be explained in terms of the data gathered in this study. Their discovery in this study is bound to arouse suspicion of discrimination against both groups for it has nothing to do with variables already accounted for, such as academic qualifications or publication record. It is also independent of the fact that both those groups were less well qualified in those regards on appointment. ...One [possible explanation] is that younger Lecturers and women tend to delay their applications for promotion longer than others because of less interest in, or less confidence with respect to, career advancement. Few would find such explanations socially acceptable for they suggest discriminatory socialisation processes at earlier stages of development. Such explanations might well exonerate a particular institution of higher education in the role of employer, but they certainly raise issues about society and educational provisions in general...

The much talked about influence of market forces upon career advancement was not much in evidence in this study... [The] suggestion of conflict between market forces and traditional criteria for career advancement in universities gives cause for concern. Universities must be vigilant lest academic standards are compromised in efforts to compete for staff in areas where market forces are strong. (pp. 128-130)

It took some years to bring this study to the point at which it appeared as above. Some years earlier, in May, 1988, I presented the first version (Dunkin, 1988b) at the annual conference of the Higher Education Research and Development Society of Australasia (HERDSA) in Melbourne. The findings reported in that early report were much more simply expressed and probably more easily grasped. Raw statistics were reported and tests of statistical significance were not. To my mind they were not required because I was not seeking to generalise the findings from a sample to a population. I had the whole of the population of lecturers appointed to the University of Sydney during the years in question and wished to report findings for that group and no other. My considerable training in statistical methods made me quite confident that my stance was justified. As a matter of course, I sent a copy of the paper to the Vice-Chancellor, who passed it on to a Deputy Vice-Chancellor, who insisted that I report the statistical significance of the results. One result that I suspect he did not want to entertain was as follows:

Gender ... accounted for a sizable proportion of the variance in time spent at the level of Lecturer (12%). While 52% of the men had been promoted to Senior Lecturer in four years or less, only 12% of the women had. Indeed

only five of the 16 women left had been promoted at all, while 46 of the 55 men had. (p. 13)

In time the study became more elaborate and I succumbed to the insistence on inferential statistics, which were reported in the later article (Dunkin, 1991a), in which the gender differences were sustained. I received no reaction from either the Vice-Chancellor or his deputy to that later and more elaborate report. I had already resigned from the University of Sydney by then!

More Research on Career Advancement

The next stage in this line of research was to see whether findings obtained with the 1981-1984 cohort would be repeated for the 1985-1986 cohort (Dunkin, 1992b). Accordingly the same methods were employed with those 55 lecturers and the findings produced were as shown below. A change had seemed to occur, with lecturers with higher market force ratings taking significantly less time to be promoted than others in the later study. Perhaps promotion for them was being accelerated in order to keep them in the university.

1. As in the first study, teaching experience, previous employment status (senior tutor, temporary lecturer, research fellow Vs tutor, research assistant, demonstrator), and publication record were all significant predictors to *initial tenure*. Age, gender, possession of a doctorate and market force rating were, again, all nonsignificant in relation to this criterion of career progress.
2. However, regarding *time taken to achieve tenure* by probationers, results were quite different from those of the earlier study. Whereas in the earlier study the most influential variable was market force rating, in this study it was publication record.
3. In both studies, possession of a doctorate was the strongest predictor of *resignation before promotion* to the rank of Senior Lecturer. Those with a doctorate were less likely to resign before promotion than those without. Both prior employment in the university and market force rating had become significant predictors to resignation in the second study while neither was in the first. However, those with higher market force rating were less likely to resign than others. Inducements to stay in the university may have been operating effectively by then.
4. For the second study, influences upon *speed of promotion* appeared to be quite different from in the first study. In the later study, demographic or "equity" variables played no significant role, it seemed. By the same token, educational characteristics and professional/work variables appeared to play a different role. Whereas in the earlier study possession of a doctorate and publication record were both significant predictors, neither was significant in the second study. Instead, previous employment in a higher status position and market force rating emerged as the only two significant influences on speed of promotion, with market force rating being the major influence. Both were strongly associated with shorter times till promotion. Neither of these two was a significant predictor to time to promotion in the first study.

More Research on New Lecturers

Induction

Next, I extended the research on new lecturers by following up those arriving between 1 January, 1985, and 31 December, 1988. However, this time in order to ensure comparability between men and women lecturers, I used a matching procedure. This led to

the identification of eight pairs of men and women, each matched as closely as possible on discipline type and initial status. Four of the pairs within the science and non-science categories had been appointed with tenure and four without. To the interview schedule used in the first studies, questions were added that were concerned with: (a) help received in getting to know the university; (b) special consideration in workload; (c) participation in professional development activities; (d) unexpected opportunities or advantages; (e) special problems concerning teaching, research or other matters; (f) help received with special problems; and (g) ability to do things the interviewee wanted to do.

Orientations to teaching

A second group of new items concerned the following aspects of orientations to teaching: (a) change in ideas about the importance of teaching in comparison with research and other matters; (b) beliefs about the most important ways in which they could enhance students' learning; (c) their estimations of the extent of their influence upon students' learning in comparison with other potential influences; and (d) two additions to the set of items on which they were asked to rate their competence in relation to tasks associated with teaching in higher education, in the earlier study (Dunkin, 1990a). They were: *"establishing relationships of warmth and mutual respect with students"* and *"explaining difficult material clearly to students"* both of which represented important factors emerging from Marsh's (1987) review of research on student evaluations of teaching in higher education.

Recent developments in research on teacher thinking (Macleod, 1988) prompted the inclusion of two other items. They were: *"How do you judge your success as a teacher?"*; and, *"How do you judge your success as a scholar/researcher?"* The final set of questions in this group about orientations to teaching were concerned with their *attitudes towards student evaluations of teaching*.

The main conclusions of this study were as follows:

In summary, the induction process seemed to be operating in the appropriate direction in terms of initial status, in the wrong direction in terms of sex and in an unaccountable direction in terms of discipline... The tenured Lecturers were found to be more assured of their power to affect student learning and of their competence in teaching tasks. This does not prove that they, in fact, were better teachers, but perhaps that they were psychologically better prepared for their teaching responsibilities than the other Lecturers.

[T]he findings concerning self-efficacy... are negative ones. [A] pessimistic (naïve?) conclusion could be that receiving help with problems leads to feelings of relative impotence in teaching and that participation in development activities makes one feel less competent as a teacher... A more positive and likely interpretation is...that feelings of impotence and incompetence stimulated requests for, and/or acceptance of, help and engagement in developmental pursuits.

On balance,...the results of the second study have confirmed those of the earlier study and have extended them by producing previously undiscovered results. (Dunkin, 1990a, 285)

Student Evaluations of Teaching

In a preliminary report published in 1988, a working party of the Australian Vice-Chancellors' Committee and the Australian Committee of Directors and Principals in

Advanced Education Limited (1988) suggested that *the number of formative evaluations by students* be adopted as an indicator of commitment to teaching of university departments. This interested me because I had data concerning new lecturers' willingness to obtain student evaluations of their teaching from the research described above. I was able to explore factors relating to such willingness concerning the interview sample of 55 of 85 new "tenure-track" lecturers who took up appointments during the years from 1981 to 1985. During those interviews the lecturers were asked questions concerning their early experiences at the university and were also asked to rate their confidence on a set of professional tasks associated with teaching. Following the interviews, the lecturers were invited to take part in a series of activities associated with obtaining student evaluations. The ratings and participation in the evaluation activities led to the formulation of two measures, *Perceived Competence* and *Willingness to Obtain Student Evaluations*. These, along with a set of demographic, educational, and professional background variables provided the empirical basis for the study.

The demographic and professional background variables used were those used in the studies of this sample described above. Perceived Confidence was measured on the basis of responses to the following teaching tasks:

1. Selecting subject matter for a lecture that most students will be able to follow;
2. Securing and maintaining students' attention for 50 minutes in a large lecture situation.
3. Arousing student enthusiasm for your subject;
4. Telling those students with promising futures as researchers from the rest;
5. Eliciting lively and worthwhile discussions among students in tutorials;
6. Planning students' assignments that are interesting and educationally rewarding;
7. Acquainting students with the latest developments in research techniques in your field;
8. Giving students accurate and helpful information about the quality of their work;
9. Gathering information that will be helpful in improving your course and/or teaching.

The lecturers were asked "*How much would you say you know about the following?*" The nine tasks were then presented and one of four response alternatives chosen for each task as follows: "*Not applicable*"; "*So little that my students are probably disadvantaged because of it*"; "*Enough to avoid disadvantaging my students*"; and "*So much my students are probably advantaged because of it*". The mean rating over the nine items was used as the score for each lecturer.

Some weeks after the interview, each lecturer was sent a letter inviting her or him to participate in a scheme whereby the Centre for Teaching and Learning would process data gathered in the form of student evaluations and provide a report. The lecturers were asked to choose from among the courses they taught the one that gave them the best opportunity to teach as they would like or, if there were no differences in that respect among the courses, the course with the highest enrolment. They were asked then to invite the students in that course to assign a score between 1 and 7 for the quality of their teaching and to write any suggestions they could for the improvement of their teaching.

In due course, the participating lecturers received reports containing the distribution of scores awarded, their mean score, the mean score of all the participating lecturers and a summary of the suggestions and comments made by students. They were also invited to make further use of the Centre's services.

Some months after the reports were sent out, the participating lecturers were asked:

1. To complete a form indicating how useful they found the report to be;
2. To list any changes they had attempted to make in their teaching;

3. The extent to which those changes had improved their teaching; and
4. To nominate any areas in which they would welcome help to make changes.

In the academic year following the interviews, the lecturers were again invited to participate in the scheme in the same way, except that there was no further contact sought after the reports on the student evaluations were sent out. On the basis of the information gathered concerning the responses made above, a three-point scale was developed to measure Willingness to Obtain Student Evaluations.

The most interesting results obtained in the analyses of the data were that there was *a negative direct relationship between Perceived Competence and Willingness to Obtain Student Evaluations*, suggesting that those who felt more competent in teaching were less likely to seek student evaluations and vice versa. Some indirect relationships appeared to be filtered through Perceived Competence to Willingness to Seek Student Evaluations, leading to the following conclusion:

The present study ... has indicated that the selection of number of student evaluations obtained as a criterion of performance might be accompanied by some undesirable side effects. The main one would be ... that Lecturers who rate themselves favourably on competence in the performance of teaching tasks would tend to perform relatively poorly on that criterion. Associated with that effect would seem to be three potential indirect effects. They are that men would tend to fare worse than women, that more experienced Lecturers would appear inferior to less experienced ones, and that Lecturers with doctorates would tend to outshine those without.

On balance, therefore, it would appear inappropriate to use number of evaluations obtained from students as a performance criterion. (Dunkin, 1990c)

I was grateful to Dr Herb Marsh, acknowledged world authority on research on student evaluations of teaching and highly qualified statistician, for his advice on statistical methods appropriate for the analysis of the data gathered in this study. Herb later wrote the most comprehensive review of this area of research ever, and invited me to contribute to the review. The result was a chapter, about 99 percent of which was Herb's work (Marsh & Dunkin, 1992).

Early in 1989, Lorin Anderson from the University of South Carolina arrived with his family to spend several months on sabbatical in the Centre and in the Faculty of Education. While there, Lorin, Mike Prosser and I, with the help of Joanne Anderson, conducted an interview study of the role of undergraduate assignments in several faculties of the university. We analysed the interview material and wrote reports, which we sent to the faculties. Sadly, our reports were not acknowledged by any of the recipients. While we were waiting, Robert Precians was commissioned to write a consolidated report on the whole project. By the time he had finished, however, it was clear that our efforts were unappreciated and so we proceeded no further. While the Andersons were with us, I underwent coronary artery bypass surgery and was out of action for some months. The following year, I was granted six months study leave and spent it on a reciprocal visit to the Andersons at the University of South Carolina. While there I taught a graduate level course on teaching and learning in higher education to students who were mostly faculty members undertaking doctoral studies. I wondered whether a corresponding course would attract such students at the University of Sydney.

That is not the end of the story about my research at the University of Sydney, however. In 1990, I was funded by the university to complete a study of the first 12 recipients of the new scheme for Vice-Chancellor's awards for excellence in teaching. Professor Sam Ball, then Chairman of the Academic Board of the university, supported me in my application for this research grant.

Research on Award-Winning University Teachers

Six such awards were made in each of the years 1989 and 1990. I had assisted in the design of this program and was an *ex officio* member of the committee appointed to select the award winners. Fortunately for my research project, I had succeeded in having included in the scheme a requirement that the award winners participate in a recorded interview concerned with their orientations to teaching. Needless to say, I ensured that some of the same questions that had been asked of the novice lecturers in the earlier studies were included in the interviews with these 12 experts.

At this stage, I had a problem, however. It was that in the earlier study concerning the novices, I had remained inside the heads of the new university teachers in the search for their beliefs regarding effective teaching and the evaluation of it, and their power and ability to engage in it. Important and interesting as those matters were, there seemed to be a need to go further, in particular, to try to validate the various notions I had discovered against some acceptable external criteria of teaching effectiveness. I needed to determine whether any of the work I had done had turned up what might be regarded as lessons that novice university teachers might need to learn in advancing to the status of expert university teachers.

What were the experts like and did they differ from the neophytes? Quite a deal of research had been done on the similarities and differences between expert schoolteachers and novices. Emerging from this body of research was considerable evidence that expert teachers differ from their presumably less expert colleagues in the complexity and sophistication of their thoughts about teaching. Experts seem to be more analytical, more aware of complexity and to have more enriched conceptual repertoires regarding teaching than novices. It seemed reasonable to expect that similar differences exist between expert and novice teachers in higher education and that through such investigation the nature of excellence in teaching in higher education might be better understood. My good friend, Bob Precians, analysed the interviews, which were subsequently edited and published (Dunkin, 1991b), armed with the schedule that had been used in the novices study.

The first thing we found was as expected: the experts had more elaborate conceptual repertoires regarding teaching than the novices. While they subscribed to the same four categories of structuring, motivating, activity/independence and interpersonal relationships, on average they used between two and three of those strategies whereas the novices had managed to average little more than one. In other words, the experts took a *multidimensional* view of teaching effectiveness while the novices were essentially *unidimensional*. Furthermore, the experts had more to say in relation to each of the dimensions. Here is an example the first, involving activity/independence:

The most important thing you can do, I believe, is to involve the students in their own preparation for courses and to involve them in issues relating to the courses There is always the temptation to tell the students what it is they need to know, but if through conversation you can relate to their particular situation rather than give them a spiel on what is standard results, then once a student is committed to stating their own position, then it's amazing how quickly and how clearly they crystallise their thoughts. (HC9) (Dunkin & Precians, 1992, p.489)

Next was the question of *self-efficacy*, belief in one's power to succeed, but first let me enter a word of caution. Probably one of the best ways of obtaining high self-efficacy regarding any particular activity is to be told by someone who counts, such as one's employer, that one excels at it. On that basis alone one might expect that the experts would have higher self-efficacy than the unrewarded novices, and, of course, that is precisely what I found. Almost 70 per cent of the experts considered that they had much or very great potential to influence their students' learning, whereas less than 40 per cent of the novices felt the same. Unfortunately, I was unable to identify the experts until after they had been declared to be such, and so they had to be interviewed after the event. However, I suspect that those teachers thought they were especially good to begin with or they would never have allowed themselves to be nominated for awards. Perhaps more interesting was the quality of the responses the experts gave to the question of their potential to influence their students. For a start, they had more to say, even if they did not think they had much influence. For example:

Well, I think I have as much influence over my students' learning as I should have, and that's not very much. I think it's a mistake that young and enthusiastic teachers manage to think somehow that the universe all hinges on them and that's not true; and it shouldn't be true. I think all of us as teachers have a marginal influence on our students, but remember that the typical student comes into contact with many teachers..., so that margins all add up on the side of learning. We have good students and they learn a lot while they are here. But, for any one of us, I think our influence on individuals is quite marginal and that's fine. (Dunkin & Precians, 1993, p. 8)

I think in the past that I might have answered this one differently, but I'd say, with the hindsight of a lot of experience, I don't think individual teachers, in the end, have a great influence. I think, I would like to hope that we do, but I suspect we all take ourselves a bit too seriously. I think students will learn in the absence of a teacher, and that is apparent in the fact that the number of students who come to classes is always smaller than the total number who present for exams at the end of the year. (Dunkin & Precians, 1993, p. 8-9)

Furthermore, the experts seemed to give *more considered replies*, for they were more likely to say, "It depends ...". Here is an example of what I mean here:

Well, that's a question that has a universe of answers. It depends on what you mean by learning. On the simple level, you can have an enormous effect. You really can... Well, in that sense [of stimulating a desire to find answers], a great deal. All the way from turning a student off an important issue ... to opening the door, saying here's something you didn't know and it's worthwhile knowing, and you can find out. Yes, I think I have enormous control over how much my students will learn. (Dunkin & Precians, 1993, p. 9)

When it came to the experts' confidence regarding teaching skills required to activate their potential to influence their students, the experts overall were significantly more confident, and again, that is not surprising given the confidence booster they had received. But there was more to it than that. The pattern of confidence was different, so that, whereas the novices were most confident about their skills associated with *substantive* issues and research, the experts were most confident in relation to *pedagogical skills*. The skills of which the experts were most confident were these:

1. Arousing students' enthusiasm for the subject;
2. Establishing relationships of warmth and mutual respect with their students; and
3. Giving students accurate and helpful information about the quality of their work.

These are not the skills one typically associates with becoming expert physicists, chemists or mathematicians, or even lawyers, historians and linguists. These look like the special skills of expert teachers and that is what these people had become.

The award winners were also invited to specify the types of information they would use in telling whether or not they had given good lectures and in coming to a judgment about their quality as teachers. The *criteria for self-evaluation* they mentioned, as a group, were the same as those mentioned by the novices, but their *repertoires were larger* and their *emphases were different*. Whereas the novices averaged about two sources of information for judging their teaching, the experts averaged about four. In telling whether they had given a good lecture, the experts relied on student reactions in the classroom to a similar extent to the novices. However, the experts were three times as likely to use self-supplied or internal impressions and more than four times as likely to report the use of information from outsiders. In judging themselves as teachers, they were twice as likely to use student performance on tests and assignments and success in later life than their presumably less expert colleagues. They placed greater reliance on *self-supplied impressions* here again, and were more than twice as likely to use *information from outsiders*.

What is meant by "self-supplied or internal impressions" as a source of evaluative information? A few of the actual responses might help to answer that question:

It's almost possible to feel that you've given a good lecture, even if there haven't been any students there; one just feels that one's explained it well I think it's much the same as a musician will give a performance. Whether it's a live audience or not, one knows when one has played a thing well, and, as a lecturer, I think one knows when one has explained it well. There's the nuance in the way you've expressed yourself, if you feel you've made the right crescendo to a point, and you look back on it afterwards and say, "Yes, I think that would have had impact, or should have had impact." (Dunkin, 1991b, p. 8)

You know! You know when you've given a good lecture But by and large, you can tell it yourself because you know what you started off wanting to do. The whole lecture was designed that you give a basic theory, or something, and you lead up to that. Now that's got to come off, no matter whether it's a proof on the board or whether it's a lecture demonstration, it doesn't matter what it is, it's the centrepiece of the lecture - maybe there are a couple of those. And so, if everything goes right, then they've come at the right time. You've done it properly... (Dunkin, 1991b, p. 30)

You feel good inside and in that sense there is something of a parallel with the theatre. I think the actors know when they've given a good performance. That may reflect their feeling for whether the audience has been receptive, but it may be a purely introspective process of having felt that the lines were presented with clarity and a certain verve. All that is important, and I'm not ashamed of that element in the teaching process - the dramatic element. (Dunkin, 1991b, p. 54)

The distinctive element of these responses, to my mind, is not that they often contain expressions like "gut-feeling" but rather that they indicate that the teacher has a set of standards that he or she applies independently of externally available information. The use of these *internal standards* seems to distinguish the experts from the novices.

To summarise, the typical new academic staff member was quite prepared to accept that teaching was a potentially beneficial influence on student learning. He or she was likely to have one or two general beliefs about the nature of effective teaching and these were most

likely to involve teaching as structuring or teaching as motivating. A wide range of alternative and complementary approaches seemed not to be available in this typical person's conceptual repertoire regarding teaching. However, this person, while confident in matters concerning subject mastery and research, was lacking in confidence that he or she possessed other important skills, particularly pedagogical ones, required to implement these strategies.

This was not surprising, given the academic emphasis in their backgrounds and the relatively little teacher training and experience they had had. As a group the novices possessed a wide range of ideas regarding the types of information they might use in evaluating their teaching, but individually they appeared limited to only about two, on average. On this basis there seemed to be good justification for the Centre for Teaching and Learning I directed to offer a program that would provide for, first, the enhancement of new faculty members' conceptual repertoires regarding teaching and learning; second, their confidence in their possession of pedagogical skills; and, third, knowledge of the range of criteria they might use in self-evaluation of teaching.

To recapitulate on the differences between the experts and the novices: first, the experts seemed to have more extensive and deeper repertoires of thought about teaching effectiveness. Typically, they were able to draw upon almost twice as many strategies for enhancing their students' learning and they were able to elaborate upon those strategies as though they knew much more about them. Second, they were more strongly of the belief that they played significant roles in influencing their students' learning. Furthermore, even if they did not feel highly potent in this regard, they were more aware of the limits that varying contexts could set on their power to influence. They knew more.

They were also significantly more confident that they possessed the teaching skills necessary to give effect to their potential, and especially was this the case for the more pedagogical of those skills. Finally, they also seemed to be better equipped cognitively to engage in self-evaluation. They reported drawing on a wider variety of sources of information and, while they were much more inclined to apply their own standards, they were also much more inclined to take notice of what third parties could tell them.

What, then, were some of the implications of this research? I think there were several important ones, but the most important was the possibility that the comparisons between the expert and the novice teachers produced evidence of *lessons* to be learnt, or *developmental tasks* to be achieved, in acquiring expertise in university teaching. It seems utterly reasonable that the acquisition of a wide range of concepts about teaching, the belief in one's power to influence others, the confidence that one possesses the required competencies to operationalise that power effectively, and the possession of an adequate knowledge of the types of evidence that might be considered in self-evaluation are some of the distinguishing marks of excellent university teachers. If that is so, then potentially useful suggestions for the design of staff development programs had been provided and progress might be made towards lifting the status of knowledge about teaching in universities from that of a *craft* to that of a *profession*. Another, related, implication is that it should not be assumed that competence as researchers automatically leads to competencies in recognising and inducing research knowledge and skills in others. University teachers might need professional development in *teaching about research*, as well as *being researchers* themselves. The findings above imply that better teachers might be more likely to be aware of this need than others.

I found this project particularly satisfying because I was more at home thinking and writing about the nature of teaching and teaching effectiveness than I had been concerning career advancement, market forces and the like. One of the reasons for this was that in the latter research I felt as though I was on thin ice. Producing unwelcome information about the university could easily rebound on the Centre for Teaching and Learning and could end up

jeopardising the work my colleagues and I had been doing to advance teaching and learning in the university. The project also yielded some first rate materials for use in programs of teaching development, for the interviews of the award winners were on videotape and in print and they had agreed that the material could be used for staff development.

My final project with the award-winning teachers was a small-scale study of their thoughts regarding the relationships between teaching and research (Dunkin & Precians, 1994). The data, again analysed by Bob Precians, came from responses to the following questions in the interviews:

Have you changed your ideas about the importance of teaching in relation to other activities, such as researching?

What is the relationship between teaching and research, to your mind?

The restructuring of Australian institutions of higher education in the early 1990s resulted in the former Colleges of Advanced Education becoming part of universities and becoming subject to expectations that had not previously been included in formal definitions of their roles. Foremost among the changed expectations were those concerning research. While the staff of the former colleges were not required to engage in research as part of their job definitions before the restructuring, they had been since. Thus, new interest in the relationship between teaching and research had been aroused. Coinciding with the restructuring, several Australian universities had sought to demonstrate their commitment to high quality teaching by introducing awards for excellence in teaching. The question often being asked, then, is whether there is some conflict, or at least strain between the demands.

Of the award winners, four suggested teaching was more important than research, five thought they were of equal importance, and two thought teaching was less important (one did not respond). There was an inclination for the respondents to favour teaching in this regard rather than research. Perhaps that was not surprising given that the respondents had been selected because of the *excellence of their teaching*. Although some of them might well have qualified for awards for excellence for research had there been any, it is clear that some, by their own admission, would not. The question that might be asked, therefore, is whether a group selected for their *excellence as researchers* would respond differently regarding the relative importance of teaching and research.

On the question about the relationship between teaching and research, one said teaching leads to research, four said teaching depends on research, five thought that teaching and research interact, and two suggested that they are interdependent. It seemed the view that teaching and research are independent activities was very much a minority one. The relationship was more often seen as one of dependence, usually of teaching upon research rather than vice versa, or of a more complex interactive nature in which each affects the other. It might well be asked whether these views would be endorsed by those whose excellence was in research.

By this time, I had produced an edited version of the interview transcripts published in monograph form (Dunkin, 1991b) in the hope that it might be useful for staff development purposes. One other benefit of the research was that I was able to use it to present the 1989 Victor J. Couch Lecture presented at the Catholic College of Education Sydney on 17th October, 1989 (Dunkin, 1990e). I was only the second person honoured by the invitation to deliver that address. Its title was *Identifying excellence in teaching: promises and pitfalls*.

A Study of Publishing Practices

Next was a study of publishing practices using the same database that had been obtained from the 85 novice lecturers. In this study (Dunkin, 1992a) I had help from my former Macquarie University colleague, Stan Doenau, whose superb analytical skills were just what

were needed. I had already found, without surprise, that publication record was a major determinant of initial status as a tenured or probationary lecturer and of the speed with which promotion was secured. I had also found, with concern, that gender was involved in speed of promotion by virtue of its association with publication. Of course, these results were not necessary to establish the importance of publication in academe, but they were stimuli that provoked me to undertake the study of the dynamics of authorship. I began by looking in greater detail at the list of publications contained in the annual Research Reports of the University and found myself focussing upon authorship. It did not take long for me to discover what I probably already knew, that is, that physical scientists' publications were much more likely to be multiple-authored than those in humanities and social sciences. I was much more intrigued by the discovery that women were less frequently involved in multiple authorship than men. The upshot of this was the conclusion that I had better do a more carefully designed study that would allow physical scientists to be compared with others, with gender being controlled, and that would allow men to be compared with women, with discipline-type controlled.

There were a couple of tricky problems found here. When I attempted to match men and women according to their disciplines I found that only five of the 21 women had been appointed to physical science departments and for three of them there was no possible male counterpart. So, the two science women and their corresponding men were selected. Then an attempt was made to find matching males for the 16 women in the humanities and the social sciences. Success was had for seven so that the total of nine matched pairs was identified. These allowed comparisons to be made across a range of discipline-types between men and women who had taken up duty at approximately the same time. However, they did not allow comparisons to be made between the physical sciences and other discipline-types. The solution to this problem was approached by randomly selecting from among the 32 male physical scientists a group of nine to equal in numbers the males in the matched groups. It would now be possible to compare male physical scientists with a group of males from a range of discipline types.

The main findings from these comparisons were that gender, discipline-type, authorship and promotion speed were connected so that male physical scientists, who engaged in higher rates of publication, especially by way of multiple authorship, received promotion much more quickly than female colleagues in a broad range of non-physical science disciplines. Indeed, these women took an average of 25 or more months longer to receive promotion than the male physical scientists did.

The study revealed some dynamics of authorship that had not often been documented before. For example, it provided further evidence that judgments made about publication record on the basis of multiple versus solo authorship, and order of authors' names, are hazardous. Another issue was the order of names listed as authors in a joint authorship publication. Figure 5:2 presents the types of responses to that question.

Authors were apparently able to manipulate these to meet the criteria adopted by authorities such as promotions committees. That meant that the frequent assumption that publication record is a more accessible and more reliable criterion of academic performance than evidence of teaching effectiveness in questionnaires is questionable. It appeared that ground rules across disciplines in such matters as the inclusion of names in lists of authors and for indicating relative contributions of authors needed to be established. There seemed to be differences that could be attributed to discipline type and it was to be hoped that decisions about career advancement took these into account. However, the possibility that discipline type and gender were jointly responsible for some differences posed more intricate problems upon which this study was able to shed some light. It appeared that if women could be

assisted or encouraged to participate more in multiple authorship their publication records might be enhanced and their career advancement expedited.

1. The complex nature of the projects calls for specialised skills, techniques, equipment or materials which can not be supplied by a single researcher. A different laboratory containing specialised equipment might have to be used and so personnel from that laboratory are included in the list of authors, even though they might have nothing more to do with the project than run a test or grant access to the laboratory.
2. The complexity and volume of work is so great that more than one person is required to complete it within a reasonable time. Research assistants and postgraduate students might be involved in specific aspects of the work. Division of labour occurs with authoring tasks distributed among a number of people according to special interests and expertise.
3. It is a new field of activity with few experts and so the sharing and testing of ideas among two or more people is essential to make progress.
4. A funding agency is reluctant to support single investigator projects. Solo authorship is viewed with suspicion. Multiple authorship is regarded as one way of "keeping them honest".
5. Multiple authorship frequently arises out of supervision of postgraduate students' research. The supervisor's contribution is acknowledged by having his or her name included in publications that result. In some cases postgraduate students collaborate with each other and respective supervisors to produce multiple authored publications.

Figure 4:2. Reasons given for joint authorship

Table 3: Quantifiable Responses of Three Groups to Interview Questions				
	Group 1 Male Scientists	Group 2 Matched Males	Group 3 Matched Females	Statistical Significance
1. Are the matters about which you write mainly empirical or theoretical? Per cent Empirical.	55.60	44.40	33.30	Not Significant (NS)
2. Are you aware of anything distinctive about the ways in which academics in your area of interest go about producing publications? Percentage Yes.	33.30	44.40	66.70	NS
3. Do scholars in your area often collaborate in the authorship of publications? Mean scale score (2).	4.00	3.33	3.44	NS
4. Is joint authorship as common as solo authorship in your field? Mean scale score (3).	4.11**	2.44	2.11	p<.01
5. Have you ever been involved in jointly authored publications? Mean scale score (4).	2.78	2.11	2.00	NS
6. Did any problems or disagreements arise from working together? Mean scale score (4).	0.56	1.11	1.33	NS
7. If you had not been involved in this/these project/s would your publication record have been seriously affected? Per cent Yes.	100.00*	57.00	11.00	p<.001
8. Are there any conditions you would like for any future involvement by you in joint publications? Mean score scale (5).	1.22	1.33	1.44	NS
9. What are your views on the relative value of solo authored vs jointly authored publications? Per cent favouring solo authoring.	11.00	33.00	56.00	NS
10. Has publication had an important influence upon your career? Mean scale score (6).	2.67	2.38	2.33	NS
11. Have you ever applied unsuccessfully for promotion? Mean scale score (7).	1.22	1.33	1.56	NS
12. Do you think your publication record was important in the decision not to promote you? Per cent Yes.	50.00	33.00	80.00	NS

Numbers in brackets (), see Notes at end of article.
 *Group 1 > Group 3, p<.01
 ** Group 1 > Group 3, p<.001; Group 1 > Group 2, p<.01

Table 4:1. Table of Quantitative Results in Authorship Study

A variety of conventions for deciding the order in which authors are listed in joint publications was reported. While the degree of contribution was a common criterion, there were other common ones. Chief among these was alphabetical order of family name. Others were as follows:

1. Co-authors take turns at being first and second.
2. The order is determined on the basis of leadership with the leader being first.
3. The originator of the idea of the publication is listed first.
4. The order is determined on the basis of job need with the author of greatest need listed first.
5. The team of authors decides.
6. The most senior member in the hierarchy of university positions is listed first.
7. The most dominant member of the team decides.
8. Student-authors are named first.
9. The person who writes the first draft is named first.
10. The person who edited the final draft is named first.
11. A coin is tossed.
12. The publisher decides.
13. The principal investigator is listed last by custom.
14. The authors adopt a team name.

Figure 4:3. Reasons determining order of authors' names

The Chinese Encyclopedia

Dear Professor Dunkin,

In 1987, I have read your book, The International Encyclopedia of Teaching and Teacher Education. I was very interested in it. I thought it was the best about educational research. So I invited my some colleagues to translate it from English into Chinese. I acted as editor-in-chief and chief translator, and made a contract with the Publishing House of Xueyuan which decided to publish the book. Fortunately, the the translation book was published by the Press in June, 1989. This year, many news papers and magazines have reported the event. Therefore your name and your book have been known by many Chinese readers. Hereby I express my gratitude to you for your achievement to Chinese educational research.

I am a researcher of Chinese Central Institute Educatioal Research. In recent years, I have published many articles and several academic books, as well as several translation books such as Empirical Research in Education, by G. De Landsheere, published by the Press of Guanguing Daily, May, 1989, and so on. This year, I have acted as editor-in-chief and chief translator to The Encyclopedia of Comparative Education and National Systems of Education, by T. N. Postlethwaite (Pergamon Press), which will be published by the Press of Hebel Education next September. I am very pleased to consult you about of educational research. So I hope to contact with you often from now. I look forward to hearing from you very soon.

Sincerely yours,

Wang Jinbo

The above letter was dated 30 October, 1989. After I had picked myself up from the floor. I sent a fax to Barbara Barrett at Pergamon HQ in Oxford, asking her "What do you know about the following letter from Wang Jinbo? Does Pergamon know about the translation? How can I get a copy?" Barbara replied by sending me a copy of a similar letter also dated 30 October, 1989, received by Neville Postlethwaite, who had edited a corresponding encyclopedia entitled, *The Encyclopedia of Comparative Education and National Systems of Education* (1988), as another spin-off from the 12 volume encyclopedia. Eventually, on 13 December, 1989, I sent a reply to Wang Jinbo thanking him and telling him that I had not heard about his news from Pergamon Press and that I was sending a copy of his letter to them. I also asked him if he would send me a copy of the Chinese edition of my book. I waited and waited for a reply, which finally arrived several months later and is included below.

Dear Professor M J Dunkin,

Thank you very much for your letter of December 13, 1989.

Just as I have told you in last letter, we have translated and published your book which was published by Pergamon Press. You had not heard about this from Pergamon Press because Xueyuan Press had not wanted to inform Pergamon Press. Like other Chinese Presses, Xueyuan Press had not informed any concerning foreign press when it published translation books. Perhaps it is due to the fact that China had not joined Universal Copyright Convention, or due to the fact that Chinese Presses worried about the trouble of royalty which was required by related foreign press. So my last letter will probably produce some troubles, please do not send it to Pergamon Press.

Now I am enclosing a copy of the Chinese edition of your book. I am very sorry to say that the Chinese edition had some printing mistakes because of Beijing Event in June 1989. By the way, I have translated the name of your book from English into Chinese by free translation: 《培格曼最新国际教师百科全书》 Also I have translated your name into Chinese name: M. J. 邓金.

Would you please let me know your chief academic articles and books, as well as your research areas? If you hope that your articles and books will be translated into Chinese, please send them to me. I am very glad to introduce you and your achievements in educational research to the Chinese reading public. Your continued assistance will be appreciated.

I hope to hear from you soon.

Yours sincerely,
Wang Jinbo

It was interesting to see my family name in Chinese characters. More importantly, the pirated copy of the encyclopedia arrived in due course and remains as one of the most cherished souvenirs I could possibly have. I hope that millions of students in teacher education programs in China benefited from it.

In 1990, we went on Study Leave yet again, this time to the University of South Carolina, to work with Lorin Anderson, who had visited me the year before. I was to teach a course there on teaching and learning in higher education for students who were mainly faculty members in areas such as Social Work studying for their doctorates. I also spent some of my time analysing interviews and other material gathered as part of the research on assignments at the University of Sydney mentioned above. The experts versus novices study had not been finished at that time, but I was able to present the results of the study of the induction of new Lecturers to groups at the Universities of South Carolina, Michigan and Virginia (Dunkin, 1990a). At the conclusion of our visit to South Carolina, we flew to Madrid for a holiday with

our friends, Patricia and Peter O'Brien (see Dunkin, 2000b). At the end of that excursion, I gave the same address in West Germany at the University of Mannheim, Bundesweh University in Munich and the University of Göttingen. While visiting Dr Frank Achtenhagen at the last mentioned university, we were taken by him into East Germany, on its last legs. Then, on our way home, we called in to Hong Kong, where I gave an address entitled, *Research on teaching: Trends and issues* (Dunkin, 1990b).

I was disappointed on my return to the University of Sydney that some underhand decisions had been made, without my knowledge, concerning the funding of the Centre for Teaching and Learning, while I was on leave. My attempts to have matters put right were unsuccessful and so I began to look around for opportunities elsewhere. It just so happened that I was approached individually by four members of staff of the School of Teacher Education of the University of New South Wales (UNSW). All four were people I had taught or worked with in some capacity and whom I had grown to like and respect. UNSW had advertised a Chair in Teacher Education at its Oatley campus, south of Sydney, at what had formerly been the St. George Institute of Advanced Education, and the four urged me to "throw in" an application. I did and, to cut a long story short, was offered the job, which I accepted with pleasure. I submitted my resignation to the University of Sydney to become effective on my 55th birthday, which was a Friday. I then took up my position at UNSW on Monday, 19 August, 1991, on a five-year contract, which would terminate on my 60th birthday on Friday, 16th August, 1996.

Chapter 5: University of New South Wales Research

There were three Schools on the St. George Campus of the University of New South Wales (UNSW): the School of Teacher Education, the School of Sports Science and the School of Applied and Performing Arts, but I was the only fully-fledged Professor on the campus. I was appointed on a 5-year contract and my job in the School of Teacher Education was to establish Honours Bachelors, Pass Masters, Honours Masters and PhD programs and initiate research programs, all in five years - no small challenge. Before it had been amalgamated with UNSW in about 1990, the then St. George Institute offered a pass, course-work Masters degree but no research degrees. Now that it was part of a university, it had to "come up to scratch" with the rest of the university and justify its perceived higher academic status. The campus had been purpose built in the early 1980s and replaced the old campus of the Alexander Mackie College of Advanced Education in Paddington. That college grew out of the Alexander Mackie Teachers College established in the early 1960s on a former high school site at Paddington, an inner city suburb of Sydney. The new campus at Oatley had been built on the remains of a brick pit. It had all mod cons - computer laboratories, special microteaching spaces, gymnasium, art studios and modern media facilities. Its grounds contained a lake formed by flooding the brick-pit.

As the sole person with a "chair" on the campus, I was soon appointed to the Academic Board of the university. I immediately took over the supervision of a member of staff who had been enrolled for the PhD in the School of Education Studies on the main campus of UNSW at Kensington. Ted Nettle, whom I had taught at Macquarie University in the 1970s, was the one. He had been enrolled for the PhD for a year or two but had not yet arrived at a thesis topic. That became a high priority in my program and he soon had a topic approved. He and I applied for and received a small research grant from the Faculty of Professional Studies within which the School of Teacher Education was located. The project was wider in scope than Ted's PhD thesis topic and encompassed research into the effectiveness of the formal three-year teacher education program leading to the award of the Bachelor of Teaching degree.

Dr. Robert Phillips was the Head of the School of Teacher Education. He and I had worked together previously on consultancies in Singapore and Vanuatu and were good friends. Dr. Alan Watson was another of my new colleagues. He specialised in reading and literacy and had been a stalwart of the New South Wales Institute for Educational Research (IER) for many years. I had never joined IER because it used to hold its meetings on Friday nights and I always wanted to celebrate the end of the official working week in other ways then. Since I had left Macquarie University more than 10 years before, however, those celebrations had disappeared. The move to Sydney University had cost me a lot in terms of collegiality! When Alan urged me to join IER in 1991, I had no alternative but to join and felt rather as though it went with my new job. I became a Vice-President and found myself hosting the annual IER research students' forum on the St. George campus. Alan was a very persuasive person. So tenacious was he that I nicknamed him "Terrier". I became IER's representative on the Council of the Australian Council for Educational Research (ACER) and attended annual meetings of that body in Melbourne. At the annual conference of IER in September, 1992, I was invited to give an address entitled, *Teachers make the difference! How to improve teaching* (Dunkin, 1993), a title that Alan gave me in advance! At one stage, the state IERs' journal, *Issues in Educational Research*, was in jeopardy and needed a stopgap editor. Given my experience with editing *Teaching and Teacher Education*, I felt obliged to volunteer and edited one number, Volume 5, Number 1, published in December, 1995.

One of the first things I did at St. George was ask the then Dean of the Faculty of Professional Studies, Professor Tony Vinson, for financial support to establish *St. George*

Uniken

First Professor of Teacher Education

Dr Michael Dunkin has been appointed as the first Professor of Teacher Education at the School of Teacher Education, within the Faculty of Professional Studies.

He is expected to take up his new position, based at UNSW's St George campus, in August.

Dr Dunkin began teaching when he was 19-years-old, after graduating from Sydney Teachers' College. After teaching in NSW schools for five years, while he gained his BA with First Class Honours as an evening student, he won a position as a Teaching Fellow at the University of Sydney. He then taught in London for a time before returning as a Lecturer at the then Armidale Teachers' College, where he taught for two years.

From 1963 to 1967 he studied for his Doctorate at the University of Queensland and from 1968 to 1981 he was a Senior Lecturer then Associate Professor in the School

of Education at Macquarie University.

From 1981 until his present appointment, he has been Director of the Centre for Teaching and Learning at the University of Sydney.

He is also chairman of the International Editorial Board of the highly regarded journal *Teaching and Teacher Education*, a member of the Council of the Sydney College of Divinity and is a former president of the Australian Association for Research and Education. He has recently edited the *International Encyclopaedia of Teaching and Teacher Education*, which was translated into Chinese in 1989.

He has just returned from the American Education Research Association's conference in Chicago.

The Dean of the Faculty of Professional Studies, Professor Tony Vinson, said: "A major purpose of the recent amalgamation with the St George Institute of Education was to strengthen the



Dr Dunkin

links between initial and continuing teacher education and the field of practice.

"Dr Dunkin is admirably qualified to further the substantial achievements that have already been made in this direction.

"He is a world figure in education and his research and writings focus on teaching practice. His appointment will bring distinction to the School of Teacher Education and the St George campus."

Papers in Education, which was to be an externally refereed publication of the School of Teacher Education. Its purpose was to provide members of staff of the school a vehicle for publishing their work that would reduce the delay usually experienced in having submissions to well established journals appear in print. There was to be no suggestion that this was merely an avenue for the publication of inferior work. The Dean obliged with a grant of \$1,000 and by the time I retired on 16 August, 1996, five monographs had been published or were in press. The first, entitled "*Teacher Knowledge and Teacher Behaviour in Composite Classes*" by Bob Phillips, Alan Watson and Claire Wille, appeared in April, 1993, and the last, Number 5, in November, 1996 - five in four years was not bad. The very stylish cover was designed by Vaughan Rees, a descendant of the famous painter, Lloyd Rees. Vaughan was a staff member of the School of Applied and Performing Arts..

Continuing Involvement with Encyclopedias

I thought I had finished my involvement with encyclopedias when my single volume one was published (Dunkin, 1987b) but that was not to be. My chapter (Dunkin with Barnes, 1986) in the *Handbook of Research on Teaching* (Wittrock, 1986) apparently earned me the privilege of writing an entry (Dunkin, 1992c) in the new *Encyclopedia of Higher Education*

(Clark & Neave, 1992). It was time for the second edition of the *International Encyclopedia of Education: Research and Studies* (Husén & Postlethwaite, 1994) to be planned. I was honoured with an invitation to become a member of the Honorary Editorial Board and was asked to write two entries (Dunkin, 1994 a & b). I declined an invitation to edit a second edition of *The Encyclopedia of Teaching and Teacher Education*. That unenviable job passed to Lorin Anderson, who in turn asked me to write two entries for it (Dunkin, 1995a & b). I thought by then that such expertise as I possessed had been thoroughly mined, but there was more to come (Dunkin, 2003). There was apparently some ore in the tailings.

Effectiveness of Teacher Education Project

A significant change had occurred in my research interests in the previous 10 years. My research with teachers in the higher education context had been concerned largely with their perceptions, beliefs and values, whereas in my years at Macquarie University I had focussed on classroom behavior. This transition to the cognitive rather than the behavioural realm had, in part, been forced upon me because of the change of contexts from school classrooms to university lecture theatres. I could not have coped with recordings of 50-minute lectures, for example. Neither could I have coped with audiences of hundreds of students whose participation was little more than note taking. For those reasons and others affecting the public relations of the Centre I was in charge of, research on teaching behaviour did not attract me. It was not that I had not benefited from all that careful analysis of what teachers and students were doing in schools. I suspect that I had become sensitised to elements of classroom interaction that helped in my thinking about teaching and learning and that helped in my research in other contexts. The upshot was that, by the time I arrived at St. George, I was heavily into teacher cognitions, rather than their overt behaviour.

I was able to use concepts I had researched at my previous job, so that Ted and I designed a study of the effects of the St. George teacher education program upon student teachers' conceptual repertoires concerning primary school teaching. Two main constructs were employed: (a) *dimensions of teaching*; and (b) *types of knowledge* drawn upon in making decisions about teaching. The impact of formal teacher education upon teachers' knowledge and beliefs regarding teaching had been the subject of a considerable body of research and literature over the previous decade or two. Most reviewers had concluded that the intellectual and attitudinal "baggage", part of the informal teacher education that student teachers brought with them from their school days, was difficult to replace or modify.

After reviewing the relevant literature, Ted and I concluded:

On the basis of the reviews...it would seem justifiable to predict that attempts to identify differences in cognitions about teaching between groups of student teachers exposed to different instructional treatments or at different stages of a teacher education program would be minimally successful. Furthermore, it might be expected that the most noticeable effect of classroom teaching experience would be an increase in custodial attitudes and beliefs. (Dunkin, Precians & Nettle, 1994, p. 397)

The study Ted and I designed tested the effects of three aspects of the St. George primary teacher education program: (a) practice teaching; (b) the pattern of formal subjects included in the teacher education curriculum; and (c) stage of program. The curriculum during Semester 1 for the first year students was uniform for four subjects but varied for another two. Those in Pattern X studied English 1 and Human Society and Its Environment 1, while those in Pattern Y studied Mathematics 1 and Personal Development - Health and Physical Education 1.

The questions we wanted to answer about practice teaching were whether there would be any change in either the *dimensions of teaching* apparent in student teachers' responses in interviews or in the *types of knowledge* drawn upon that students mentioned after practice teaching from those mentioned before practice teaching. The problem here was that the mere fact of being interviewed *before* might influence responses *after*, regardless of what happened in between. We also wanted to know whether the pattern of subjects studied made a difference. Therefore, we needed a sampling design that would allow us to examine the independent effects of interview schedule and pattern of subjects. Thus we needed two random samples: Sample 1, which would be interviewed twice, before and after practice teaching, and Sample 2, which would be interviewed only once, after practice teaching. Half of each of those samples needed to be allocated randomly to each pattern of subjects studied. If we later discovered differences between the two samples after practice teaching, and their members had been allocated randomly to Pattern X and Pattern Y, then those differences must be due to influence by the first interview.

1. What are the most important things you can do to enhance students' learning?
2. What things do you need to take into consideration in deciding the best ways to enhance students' learning?
3. Would the things you said you would do to enhance students' learning be the same if you were teaching Mathematics?
4. Would the things you said you would do to enhance students' learning be the same if you were teaching Human Society and Its Environment?
5. How do you tell when you've taught a really good lesson?
6. Would it be the same if it were a Mathematics lesson?
7. Would it be the same if it were a lesson in Human Society and Its Environment?
8. How do you evaluate your success as a teacher?
9. Please tell me your experiences with Human Society and Its Environment:
 - (a) How many lessons did you teach in that Key Learning Area?
 - (b) How many lessons did you observe in that area?

Figure 5:1. Interview schedule used in effects of teacher education study

The design for the first two aspects of the study, then, was as shown in Table 5:1.

	Interviewed pre- and post-practice teaching	Interviewed post-practice teaching only	Total
	Sample 1 (n = 19)*	Sample 2 (n = 20)	39
Pattern X	Sample 1a (n = 9)	Sample 2 a (n=10)	19
Pattern Y	Sample 1b (n = 10)	Sample 2 b (n=10)	20

*One lost by attrition

Table 5:1. Sample design in effects of teacher education study

The difference in content between the two patterns was more than just in subject-matter. They also differed in activities and this was known before the research began:

In particular, ...50% of the class hours in Human Society and Its Environment were occupied by visiting lecturers talking about different aspects of Aboriginal culture. Although this program was seen to provide a rich experience in learning about Aboriginal culture, it was reported by the staff member in charge of the subject that difficulties of coherence in the subject occurred and that 'virtually no links' existed with the field experience program... (Dunkin et al., 1994, p. 399)

It would be surprising if the special nature of the Human Society and Its Environment subject were not to be manifested in the findings of this study.

Finally, to pursue the question of differences according to stage in program, a random sample of 20 third year students was selected (Sample 3) for comparison with the first year students. These final year students were interviewed towards the end of their sixth and last semester. The interviews were used to test the effect of stage in program upon student teachers' thoughts about *dimensions of teaching* and *types of knowledge* drawn upon. Fortunately, Bob Precians was again available to assist in the analysis of the interviews and to report on them.

Findings for Dimensions of Teaching

Before vs after practice teaching: As outlined above, the literature about the effects of student teachers' first experiences of teaching a large group of pupils in a normal classroom context had suggested that fear of loss of control was a dominant concern and that custodial behaviour emerges. It was as though the student teachers tend to become focussed upon survival in a situation in which they are lacking in confidence. It seems likely that anyone placed in a similar situation would lack confidence. School students, recognising insecurity in the inexperienced teacher, may misbehave. So what might the student teacher do? He or she, predictably, seeks to exert influence, to dominate, to become authoritarian, to show who is boss. Was there any evidence of such a change during practice teaching in this study?

Well, yes. There was evidence that they had become more custodial in their *orientations to teaching*. During the interview before practice teaching, the number of times the "*structuring*" dimension had been mentioned by the 19 (one had been lost by attrition) was approximately 29. In the second interview, after practice teaching, it was mentioned approximately 43 times. This seems like pretty strong evidence that there had been a retreat to custodialism. But hold on, what about the other three dimensions - *activity and independence*, *motivation*, and *interpersonal relationships*? Well, there was further support for the custodialism prediction there, because *activity and independence* showed the reverse trend - a decrease in mentions from a total of 40 to 27, as though there had been a shift to "*sit still, listen and be quiet!*" policies. There had been little or no change on the other two dimensions.

Pattern X vs pattern Y: The thinking researcher might say, "But wait. Half of the student teachers had been studying different subjects from the other half before practice teaching. That might have made the difference, not just the practice teaching itself." Well, let's see. It is true that the students in the Pattern X group had been studying, and presumably learning, different subject-matter from those in the Pattern Y group. There had been a tendency for those in Pattern Y to mention *activity and independence* more

often than those in Pattern X before practice teaching. Sure enough, big differences emerged after practice teaching. Pattern Y students mentioned almost everything much more often than Pattern X students! They had much more to say than the other group. How could that have happened? Was it because of the nature of their experiences in the Human Society and Its Environment subject described above? More evidence was sought, this time directly from the schools themselves. We reported as follows:

In their roles as liaison officers with the schools used for practice teaching, two of the authors gathered an impression that student teachers were encountering few opportunities to observe or teach lessons in the Key Learning Area of Human Society and Its Environment. Upon discussing this informally with teachers and school principals it emerged that some schools were giving low priority to this subject because they were waiting for the State Department of School Education to release its official curriculum document in that area following changes to the primary school curriculum... (Dunkin et al., 1994, p. 400)

This revelation prompted us to interview the student teachers themselves after practice teaching to ask them to report specifically on their opportunities to watch and teach lessons in the Human Society and Its Environment area. The report continues:

Twenty-five of the 39 student teachers reported that they had taught no lessons in this area. The most any had taught were three to four lessons per week (one student teacher) and the rest had taught between one and three over the 15 days of practice teaching. As well, 10 student teachers reported not having observed any lessons in this area. One reported having seen "quite a few" but four was the largest number seen by the rest. (Dunkin et al., 1994, p. 400)

So, it was probably not that they had been learning different subject-matter but that they had learned much less about teaching strategies in Pattern X than in Pattern Y, where things had been normal. Not surprisingly, those in Pattern Y had much more to talk about both before and especially after practice teaching for they had had a chance to try out some of the things they had seen and otherwise learnt about. Here was rather convincing evidence that the program had had a significant effect upon the student teachers, albeit in a negative way. There had been combined undesirable effects of the deficiencies in Human Society and Its Environment and corresponding deficiencies in the practice teaching experience. Student teachers' cognitions regarding teaching seemed to have been diminished accordingly.

First year vs third year: Did being a final year student rather than a first year student in this teacher education program make a difference in dimensions of teaching mentioned in the interviews? Not much for three of the dimensions studied here, it seems, for there were only non-significant differences concerning structuring, activity and independence, and motivation. The retreat to custodialism hypothesis was, therefore, not evidenced here. But there was a big difference concerning establishing relationships with pupils that might be considered more conducive to learning. Here, the third year students made many fewer mentions than the beginning students - indeed, only 40 percent as many. This was a highly significant difference statistically. The discussion of this finding in the published report on the study was as follows:

One plausible explanation is that by the time they had reached the end of their program, the third year students had learnt that achieving satisfactory interpersonal relationships with primary school students was not the

problem they had anticipated it would be at the beginning of the program. This possibility would then render interpersonal relationships less salient in responding to questions about effective teaching strategies, so that fewer references to them would be made by third year students. (Dunkin et al., 1994, p. 407)

Findings for Types of Knowledge Influencing Decisions about Dimensions of Teaching

The student teachers were asked to specify the factors they would need to take into account in deciding their strategies for enhancing student learning. This was so that they might reveal the types of knowledge they would draw on in pedagogical decision making. In earlier research by Shulman (1987) and Tamir (1988), several categories of this type of knowledge had been suggested.

The types of knowledge drawn upon by student teachers could be grouped into three broad categories:

knowledge about pupils, for example, their gender, social background, prior performance academically;

knowledge about self as teacher, for example, their own academic performance in the teacher education program and their motivation to succeed in teaching; and

knowledge about the context of teaching and learning, for example, curriculum requirements, school facilities, and school policies.

When these three broad groupings were used as criterion variables in testing the effects of practice teaching, course pattern and stage of program the findings were as follows.

Before vs after practice teaching: Both before and after practice teaching, knowledge about pupils was the most frequently mentioned type in the student teachers' responses in the interviews, with knowledge of self as teacher and knowledge of context following in that order. However, practice teaching appeared to have effects mainly on the number of references to student variables ($p=.04$) and the total number of references to factors to be taken into consideration in choosing teaching dimensions ($p=.02$), with statistically significant reductions in both cases from pre- to post-practice interviews. This may have been because experience helped student teachers to be more parsimonious in their realisation of factors to be considered in decisions about teaching dimensions.

Pattern X vs pattern Y: Before practice teaching, all of the differences between the two course patterns seemed to be due to chance. However, after practice teaching, Pattern Y students made significantly more mentions of factors to be taken into account than did Pattern X students ($p=.02$). Again, Pattern Y students seem to have benefited more from practice teaching than Pattern X students.

First year vs third year: There were no differences between the first and third year student teachers on the knowledge of pupils and knowledge of self as teacher variables to be considered in selecting teaching dimensions. However, a statistically significant ($p=.01$) difference in number of mentions of knowledge of context was discovered. Third year respondents were found to make significantly more frequent references to contextual variables in choosing teaching dimensions than the first year students. This finding suggested that third year students, more than their less experienced colleagues, had developed professional knowledge of ways in which the school context might facilitate or limit choices of teaching strategies.

Criteria for Evaluating Teaching and Self as Teacher

This topic concerned questions 5 to 8 of the interview schedule (Figure 5:1), which were similar to questions asked in interviews in my research on the award-winning University of Sydney teachers (Dunkin & Precians, 1992 & 1993) discussed in Chapter 4. The criteria by which teachers evaluate their own teaching had been given little attention in the literature on teachers' thinking. In Australia, Gordon Macleod reported a study of northern New South Wales inservice teachers' and student teachers' criteria for evaluating lessons and themselves (Macleod, 1988). He found that both the teachers and the student teachers relied much more upon pupil classroom behaviour in judging individual lessons than they did on pupil behaviour following lessons or their own personal feelings or the evaluative judgments of others. In contrast, he found that the student teachers relied on classroom management, particularly the absence of discipline problems, more than did the inservice teachers. However, in passing judgment on themselves as teachers, Macleod's *teachers* relied least on pupil behaviour in class and most upon longer-term pupil behaviour and much more upon the evaluative judgments of others, especially parents. However, the *student teachers* relied most upon teacher-pupil relationships, followed by supervisory feedback and pupil achievement.

Our St. George study (Dunkin, Precians & Nettle, 1996) found that in evaluating individual lessons, almost all the student teachers relied on pupil behaviour during the lesson rather than on other indicators. However, their judgments about themselves as teachers were based on longer-term outcomes in pupils, their own preparation, performance and follow-up activities, and evaluative feedback from others. Important differences were found between First and Third Year student teachers: the more senior student teachers were more likely to mention short term pupil learning and teaching style in evaluating lessons than their more junior colleagues. Furthermore, the average Third Year student mentioned more than twice as many teacher-based criteria as the average First Year student concerning judging self as teacher. Finally, in the eyes of the majority of these student teachers, whether the lesson they were evaluating was mathematics or social studies made no difference to the types of criteria they said they would use.

The conclusions reached in the study were much more encouraging about the efficacy of formal teacher education than the ones reviewers like Kagan (1992) had reached. There were many caveats to be acknowledged, but it seemed that evidence had been produced that the types of experiences offered to student teachers were important. Practice teaching in the before-and-after analyses appeared to make a difference in some important ways. The curriculum of subjects offered clearly affected students' experiences in the program and, in combination with practice teaching experiences, had powerful results that were difficult to attribute to any other influences. Stage of program seemed to matter as well. Evidence was produced that the senior students made significantly fewer references to interpersonal relationships as important in enhancing student learning. Moreover, the senior students' emphases on the criteria to use for their evaluative judgments about their lessons and themselves as teachers were different from those emphasised by their more junior colleagues. The study also found that the third year students more often said they would need to draw less upon self-focussed types of pedagogical knowledge and more upon knowledge of professional education contexts than their more junior colleagues. It seemed plausible that these changes were due to professional education more than to incidental changes occurring with age.

These conclusions were thought to be encouraging to those who believe that an important goal of teacher education ought to be the development of student teachers' ideas regarding teaching.

The main report of this study appeared in *Teaching and Teacher Education* (Dunkin et al., 1994) several years after I had ceased being its editor. A second report was published in a very badly edited version two years later (Dunkin, Precians & Nettle, 1996), but an "errata" page was published in a later number (Volume 31, Number 2). The most important outcomes of the study were that evidence was produced that the St. George teacher education program was effective, that Ted Nettle got his PhD, and that the publication rate of the School of Teacher Education received a boost. Independently of the above, another student, Annie Welch, finished her BEd degree with 1st Class Honours and was soon to become the team's Research Assistant for the next project. Annie and Ted were among the first graduates of the new programs I had designed and the Academic Board of UNSW had approved. The Bachelors Honours and the PhD programs were operating effectively!

By 1994, I had a new PhD student to supervise, Anna Kwan, from Hong Kong. Anna was the very model of a PhD student. During her years in Sydney she became part of the Dunkin extended family and joined us for Christmas dinner each year. When we went on Study Leave in 1994, she carried on under the supervision of Dr Bob Connors, whom I had taught in the Diploma in Educational Administration at the University of New England in Armidale in 1963! When I returned from leave six months later, Anna had collected all her research data and was already in the analysis phase. The level of independence she displayed was unsurpassed. She completed her degree in less than the mandatory three years candidature and her thesis was approved without any rewriting.

During the 1994 period of leave, Iris and I went first to Stanford, where we spent a pleasant few days with Nate and Maggie Gage and then flew to Phoenix AZ, for a few months with David Berliner and his colleagues at Arizona State University in Tempe. During that time I worked on a new research plan for the School of Teacher Education at home. That's where the *KIP* proposal originated (see below). Then we moved to Charlottesville VA, where we stayed with friends Greta and Dick Dershimer (2 weeks) and Jim Cooper and Shamim Sisson (2 weeks). There I spent nearly all my time in the library of the University of Virginia checking out the review of research on teacher education that had been written by Donna Kagan (Kagan, 1992). I had been suspicious of that review ever since our study at St. George had produced findings that were at odds with some of her conclusions. After a month of discovering an almost unbelievable number of errors in representing the details of the research Kagan reviewed, I was fully armed to write the Radford Lecture (Dunkin, 1995c) I had been invited to deliver at the annual conference of AARE later that year.

Then it happened! I made into *Who's Who in Australia 1994*. There it was on page 481 - a seven centimetre entry devoted entirely to me. If only my mother could have lived long enough!

In the meantime, I had been elected President of the Australian Teacher Education Association (ATEA) and set about preparing my Presidential Address by pursuing further the investigation into Kagan's review. The more I compared her claims about the research with the details in the reports, the more errors and misrepresentations I discovered. There is more about that below.

On the sidelines was a proposal to deregulate the teaching profession in order to solve the teacher shortage problem. I wrote the following letter, published on 26 July, 1994, in *The Australian* newspaper:

Classroom charlatans

JANE Richardson's article (*The Australian*, 20/7) was an excellent indication of problems to be faced in teacher education in this country in the near future. Unless universities are encouraged to expand their intakes into teacher education programs immediately there will be yet another shortage of teachers in a few years.

However, the increasing demand for teachers is not the only challenge facing education. A much more acute one is the move to deregulate the teaching profession and to abolish the only two teacher registration authorities in Australia, those in Queensland and South Australia.

We should be increasing our efforts to ensure high standards in the teaching profession in Australia, not decreasing them. Imagine the state of medical services if doctors no longer had to be registered. Medicine could then be practised by charlatans and many patients would die prematurely as a result. Why would we want to risk placing our children's education under the same threat?

To face a shortage of teachers without an authority independent of employers to guarantee standards of teaching is to place our children in double jeopardy. What would stop the employment of people of inferior qualifications to fill the gaps in the teaching profession?

Prof. M. J. DUNKIN
President
Australian Teacher Education
Association
Wanniassa, ACT

The Civics and Citizenship Study

On my return to Oatley from study leave, I introduced a program of research known as the Knowledge into Practice (KIP) Program. The idea was to design individual projects staffed by various research teams in the School of Teacher Education, concentrating on the connection between teacher knowledge and classroom events in the several discipline areas of the School. Research on teacher knowledge began in earnest in the mid-1980s as a development within the area of research on teacher cognitions. After hundreds of studies of classroom behaviour, it had been recognised that the study of teachers' mental lives was crucial to an understanding of their activity in classrooms. Early research into teacher thinking had focussed upon teacher planning, interactive decision-making and implicit theorising, with little regard to the substantive context in which such thinking occurred. Largely as a result of the writings of Shulman and his colleagues (Shulman, 1986, 1987) at Stanford University, the substantive contexts of teaching had been addressed in the study of teacher knowledge, which had been pursued vigorously in the previous ten years.

Research on teacher knowledge had revealed that teachers' *subject matter knowledge* does not directly determine the quality or nature of their teaching. It seemed that teachers' *pedagogical content knowledge*, developed through experience in teaching substantive topics to particular types of students, is much more influential. Untrained teachers, or novices, who may have just as much subject-matter knowledge as experienced teachers, do not possess the well developed and readily accessible "scripts" for teaching that subject. Therefore, they are likely to be much less well organised and efficient.

Brophy (1991) wrote about the implications of the formation of cognitive structures comprising different types of knowledge:

Teachers' pedagogical knowledge, beliefs, and orientations are organized into networks that not only support but also limit what they do and how open they are to change in particular directions. Once such networks become well established, those who wish to induce significant change in teachers' classrooms may have to develop comprehensive inservice programs that address the entire networks, not just provide training in

desired instructional methods. Many teachers need to be resocialized to new beliefs about and orientations toward the subject before they can fully understand and appreciate the recommended changes in instructional methods, and many will also need additional subject-matter knowledge and increased support via better curriculum materials and more complete teacher manuals. (p. 353)

My proposal of the *KIP* program was received favourably and the Vice-Chancellor of UNSW earmarked \$100,000 to fund the research. Professor Boyd Rayward, Dean of the Faculty of Professional Studies, who was a library scientist, proved himself a worthy advocate in securing that grant. I led the way with Ted Nettle, Bob Phillips, Rhonda Craven and Alan Merritt. We managed to initiate a pilot project in civics and citizenship education designed to investigate the relationship between teachers' knowledge about the needs, rights and responsibilities of children and the manifestation of that knowledge in lessons taught by teachers in several schools in the vicinity of the Oatley campus. Corresponding projects were to be planned in the areas of mathematics, special education and computer science.

In Australia, following the publication of the report of the Civics Expert Group (AGPS, 1994), governmental decisions concerning civics and citizenship education in Australia had important implications for schools. The Civics Expert Group (CEG) had gathered evidence of inadequate teaching in this area over a 30 year period and that school teachers' knowledge and understanding was at no higher level than that which typified the general public, which had been revealed to be disturbingly ignorant. Prime Minister Paul Keating announced that \$25,000,000 would be available to implement the recommendations of the CEG. Policy decisions at both state and federal levels in Australia made it clear that syllabuses in civics and citizenship education would soon be developed and implemented on a wide scale throughout Australia's school systems.

The project we designed had five specific topics to explore, as follows:

- (a) types of orientations teachers have, and that they develop, towards the objectives and subject-matter contained in a syllabus for civics and citizenship education;
- (b) teachers' practical knowledge as it is exhibited during the implementation of the syllabus;
- (c) teaching strategies employed by teachers while implementing the syllabus;
- (d) responses and reactions of pupils to teachers' attempts to implement the syllabus; and
- (e) relationships among the above teachers' orientations, practical knowledge, teaching strategies, and pupil responses and reactions.

The study commenced with the development of a four week (90 minutes per week) unit of work for year 5/6 classes. The unit was developed by a working party consisting of a curriculum development consultant as convenor and chair (Robert Phillips, former Head of the School of Teacher Education), a teacher educator with expertise in the K-6 Human Society and Its Environment Key Learning Area (Alan Merritt), an expert in the area of civics and citizenship education from the New South Wales Department of School Education, who had assisted the Civics Expert Group (Lynne Goodwin), and two highly experienced primary school teachers (Wendy Lewis and Greta Evans). The group met over a five-week period and produced a draft unit of work entitled *"The Needs, Rights and Responsibilities of Children"*.

The unit was intended to highlight ways in which Australian and overseas governments and political institutions had affected children in the past, were affecting them in the present, and may affect them in the future. It was composed of five modules entitled, *"A Slice of Time in Australian History (1788-1830)"*, *"A Slice of Time in Australian History*

(1890-1918), "A Slice of Time in Australian History (1950-1970)", "Aboriginal Studies and Perspectives," and "Children Around the World". The aim was to allow students to become proactive by appreciating how government laws and political decision-making, or lack of them, have affected children both nationally and internationally. Lists of desired knowledge and understanding "outcomes" and "pointers", together with a list of attitudes and values thought to be important in the development of students were provided for teachers' guidance. A statement of ways in which students' learning might be assessed was also provided. Each module contained a set of suggested topics and an indication of their links with the needs, rights and responsibilities of children, and a set of suggestions for teaching strategies and learning activities. Appended to the unit was a list of suggested resources for each module.

Four volunteer teachers were interviewed to determine their orientations to the teaching of civics and citizenship and then they implemented the unit of work. All lessons were videotaped and, at the end of each, stimulated recall interviews using the videotapes as stimulus material were held with each teacher to explore teachers' thinking underlying the lessons and to explore their reactions to the lessons. Each videotaped lesson was viewed by three researchers, who individually constructed questions about incidents occurring in the lessons. The three sets of questions were pooled into a single schedule, usually containing about 30 questions, which were put to the teacher at a meeting attended by at least two of the researchers, with parts of the videotaped lesson giving rise to the questions being played back. These interviews were audio-recorded. The audiotapes were then replayed by the researchers, who transcribed teachers' responses and then categorised them, to arrive at seven themes. At the end of the four weeks, all teachers participated in final interviews to seek their reactions to the implementation phase. As well, four pupils (2 boys and 2 girls) from each class were interviewed as a group to sample their reactions to the lessons.

Case studies of each of the teachers were completed and a report written for publication (Dunkin, Welch, Merritt, Phillips and Craven, 1996). The case studies focussed on the teachers' experiences and upon the types of knowledge they expressed. After a complete case study was written for each teacher, comparisons were made across all four. As judged by the number of times each theme appeared and the proportion of the interview time it occupied, seven main themes appeared, as follows:

- (1.) Management of time;
- (2.) Knowledge of content and resources;
- (3.) Affective outcomes;
- (4.) Pedagogical knowledge;
- (5.) Knowledge of pupils;
- (6.) Knowledge of community context; and
- (7.) Control and discipline.

Wendy Lewis described her elementary knowledge of content and resources, thus:

I had a thumbnail sketch. I mean, I had enough probably to sit down and talk about it but without authority...I've got a very good memory for the trivia ...It's more putting it together as a whole and relating it in a time-line, I think, and knowing where you're heading.

In the interview at the end of the third week, Wendy displayed considerable knowledge of British influence on colonial architecture. It also became clear at this point that much

of her knowledge had been acquired through the necessity to prepare lessons. She explained several aspects of the substance of one lesson that she was about to teach. Her insight into the economic aspects of the convict transportation system were especially revealed in the following comments:

... They came basically as slave labour. If they were doing the work in England they would have been paid for it ... When they came to Australia, because they were convicts, they weren't paid for it - They were slave labour.

As a further example of recently acquired knowledge, she said: "Mrs Macarthur was the famous wool grower and not Mr Macarthur ... She did all the experimental work with the sheep and the wool," and soon after:

I think Bligh, who had such incredible plans for the colony, is so hard done by, and when you look at what he tried to achieve, it's so different from what the other Governors tried to achieve. Because he upset the Rum Corps, he was packed off ... He was, in fact, such an incredible man and he's got this black name in history ...

The identification of conflicts between old and new knowledge should have been a useful step in a program of research on teaching and learning in civics and citizenship education. It should also have been useful to those planning the professional development activities that were apparently sorely needed in this key learning area.

The report concluded with five so-called speculative propositions for future research to test:

(1.) When experienced teachers are asked to teach material with which they are unfamiliar, they begin to act like novices again. They display lack of skill in such areas as the management of time and lesson planning;

(2.) Two of the most powerful determinants of teacher knowledge are, first, the study teachers do of unfamiliar material that they shortly will teach, and, second, the reinforcement of their learning provided by the act of teaching itself;

(3.) When teachers are asked to implement new syllabuses involving content with which they are unfamiliar, they tend to interpret the syllabuses as more prescriptive than they are intended to be;

(4.) When teachers lack confidence in their knowledge of the subject matter they attempt to teach, they tend to adopt teacher-centred methods;

(5.) Confidence in their knowledge of content and resources affects teachers' ability to mobilise other domains of knowledge in their possession. Teachers who lack confidence will draw upon a narrower range of other domains of knowledge than they would if they were confident.

In a later publication (Dunkin et al., 1998), the five types of knowledge included in the list of seven themes above were reiterated and four more propositions were stated as follows:

(1.) The existence of different categories of teachers' knowledge can lead to competition between different educational objectives. Teachers' knowledge of substantive content

may sometimes be overridden by their knowledge of pupils, so that content coverage is sacrificed in favour of pupil involvement;

(2.) Teachers' knowledge of pupils' needs sometimes leads them to modify the substantive content of the lesson, even to the extent of jeopardising the validity of concepts communicated;

(3.) In their efforts to explain abstract concepts to pupils, teachers are greatly assisted by the repertoire of metaphors, similes, analogies and other imagery they have acquired. The effectiveness of these images depends on their applicability to the specific context of the instruction;

(4.) Teachers' knowledge of the community context in which they practice sometimes affects their choice of substantive content to include in their lessons. Particularly controversial content is likely to be excluded, especially if teachers lack confidence in their own mastery of that content.

Early in 1996 the Keating Government was defeated in the Australian federal elections and replaced by the Howard Government which quickly withdrew funding from the Civics and Citizenship Education program, with the result that little further research in that area followed. In any case, I was due to retire in August of that year and was not about to pursue it further for that reason. Furthermore, events at the University of New South Wales would soon ensure the demise of the KIP program.

The Kagan Review

When I returned from study leave in mid-1994, another task facing me was the preparation of the Radford Lecture I had been invited present at the AARE annual conference at the University of Newcastle in December. There was still much work to be done in bringing my discoveries in the library at the University of Virginia to fruition and the work was still incomplete when I delivered the lecture. But there was plenty of grist for the mill for three papers as it turned out. This first dealt with Kagan's review of research on preservice teachers. The review was so erroneous and so biased in its errors that I began to wonder if it was politically motivated to discredit university-based teacher education programs in the USA.

Later on in her review, Kagan addressed the question *'Do preservice candidates change their personal beliefs and images during the course of a teacher education program?'* (p. 156) and concluded: *'All but one study indicated that personal beliefs remained stable'* (p. 156). My version of the truth was the complete reverse and was that seven of the studies did find change, that only one did not find change, and that the ninth did not even investigate change!

I concluded my address thus:

There are no disclaimers that excuse the degree of error and misrepresentation to be found in Kagan's synthesis. The question now is: What effect will these and other misrepresentations have upon the beliefs and practices of future researchers in this field? Perhaps even more alarming: What effect will they have upon policy makers, some of whom might relish the idea that the role of university courses in pre-service teacher education is ineffective and perhaps even deleterious? (Dunkin, 1995c, pp. 30-31)

I was able to continue my unfinished criticism of Kagan's review the following year, 1995, in my Presidential Address at the annual conference of the Australian Teacher Education Association at the North Sydney campus of the Australian Catholic University (Dunkin, 1996a, pp. 127-146). This time I dealt with her review of research on first-year and beginning teachers and found no improvement. The errors and misrepresentations continued throughout. The abstract of that paper in its published form was possibly the most disturbing writing I had ever done. Here it is:

Syntheses of research are influential in regard to subsequent research, policy and practice. They provide the empirical bases for applications for research grants, for higher-degree dissertations and theses, and for individual and institutional research. They are used by policy makers in designing strategies for development, and they are used to guide practitioners in the enhancement of professional activity. They provide the contents of highly regarded publications in handbooks, encyclopedias, and textbooks, and become the best-known statements of the state of knowledge on the topics to which they are addressed. The processes by which syntheses of research are disseminated are equally important, because they determine which syntheses are available publicly for the above purposes. If the authors of the original sources are wrong in announcing their findings, if the synthesisers of that research do not identify the errors, if the referees of the syntheses submitted for publication are lax, if the editors of the reports of those referees are not on guard, then a potentially damaging synthesis can be released. As a result, whole programmes of misguided research, policy and practice can eventuate. The likelihood that a poor synthesis would survive the rigorous refereeing process employed by prestigious scholarly journals must be very small. Nevertheless, the consequences of such a mistake warrant contemplation. It could happen! Indeed, it appears to have happened!
(p.127)

Although a negative comment on Kagan's review had been published with it (Grossman, 1992), by the end of 1993 the review had been cited eight times and a year later 25 times. In contrast, only five of the 25 also cited Grossman's criticism. Thus, there was cause for alarm that Kagan's review was becoming accepted as part of the authoritative research literature on teacher professional growth. Perhaps even more alarming was the possible action that policy makers, armed with Kagan's review, might take in response to the suggestion that the role of university courses in preservice teacher education is ineffective and even deleterious.

My work was complete when my final effort with Kagan's review was published in the very same highly prestigious journal that had published hers four years before (Dunkin, 1996b). The editors did not give in easily, I should add. They received my original manuscript on 7 March, 1995, made me revise it, received the revision on 16 March, 1996, accepted it on 19 March, 1996, and it appeared in the following northern hemisphere summer. They had persuaded me to reorient my article so that it presented itself as a list of pitfalls for young authors reviewing research rather than as a full frontal attack on Kagan. Thus, I wrote about nine types of error waiting to ambush novices, as below. I have no idea of the impact of the revelations I had made, except that the article was republished in 2000 (Dunkin, 2000a). I wonder if it has been cited as often as Kagan (1992)?

Type 1: *Unexplained selectivity*. These are errors in which the reviewer excludes research that comes within the declared scope of the review without explaining or justifying the exclusion.

Type 2: *Lack of discrimination*. Giving the same weight to findings produced by poor research as is given to those of good research.

Type 3: *Erroneous detailing*. Incorrect statements of the sampling, methods, designs, procedures, and contexts of the studies reviewed.

Type 4: *Double counting*. Listing different reports from the same project as providing additional confirmation of the same finding.

Type 5: *Nonrecognition of faulty author conclusions*. Failing to detect errors by the original author in stating the findings of a research project.

Type 6: *Unwarranted attributions*. Claiming that studies reviewed yielded findings or reached conclusions that they did not.

Type 7: *Suppression of contrary findings*. Failure to mention findings that are contrary to generalisations reached by the reviewer.

Type 8: *Consequential errors*. Generalisations that are flawed as a consequence of errors of the types listed above.

Type 9: *Failure to marshall all evidence relevant to a generalisation*. Failure to recognise that a study contains evidence relevant to a generalisation reached by a reviewer.

I found it possible to sympathise with Kagan in relation to one instance that might have tricked even the most assiduous reviewer. It was a grand instance of a Type 4 error in the above list. Kagan cited a number of case studies reported by Bullough, Knowles and Crow (1989), Bullough (1990), Bullough and Knowles (1990) and Bullough and Knowles (1991). Both the 1989 and 1990 publications reported a case study of a person named *Lyle*, but Kagan did not realise that it was the same person in both reports, so she counted it twice. Then, there was *Heidi*, who was the subject of a case study reported in Bullough (1990). The same case study had been reported earlier in Bullough, Knowles and Crow (1989). However, then her name was given as *Helena*. To add to the confusion, her age was given as 24 in the 1989 report and 26 in the 1990 report. One report was only one year later than the other, so how would the person studied have aged by two years? But, hang on, surely the data were gathered only once, so surely she had not aged at all. But that's not all! There was another case discussed in the 1989 report. Her name was given as *Barbara*. That case reappeared in the 1991 report, except that her name had changed to *Bonnie* in that report! An end-note in the later report contained the information that *Barbara* and *Bonnie* were the same person and that "[l]ater, she chose to have her real name used" (p. 139)! End-notes are easy to overlook and that must have been what happened to Kagan, for she counted *Barbara* and *Bonnie* as two instead of just one. All in all, Bullough and his colleagues fooled Kagan into believing that there were six cases in their reports when there really were only three: *Lyle*, *Helena/Heidi*, and *Barbara/Bonnie*. I had become a forensic reviewer in education by virtue of these discoveries and so, when I met Bullough at the AERA annual meeting in New York in 1996, I mentioned these strange events to him. He was not the least ruffled and looked at me as though I must have been touched! Another researcher at that conference was one to whom I had written seeking information about an article cited by Kagan but which I had been unable to locate. She chided me for being so unkind to Kagan and hinted that I would be to blame if Kagan took her own life because of the shame she would suffer due to my exposé! But enough of discrediting my colleagues on the other side of the Pacific. There were happier events to come.

I received a great "honour" on 25 June, 1996. One of the workers at St. George told me that at about 6 a.m. I featured on Sydney "shock-jock", Alan Jones' talk-back radio breakfast show. It was about the outlandish idea that teacher education should take four years. This is what he said:

<p>The University of New South Wales Professor of Teacher Education, Michael Dunkin, is saying the low standard which is the result of pressure on universities to fill quotas meant there needed to be extra preparation before trainees were put into schools. You're kidding!</p> <p>Professor Dunkin you are kidding! You're not going to get anyone. Four years to be - I've no idea, whatever, you would do in those four years. There must be teachers, out there, that are listening to us, give us a call will you. 131332.</p>	<p>What would they do in four years? How many of those four years of teaching training would be an absolute and palpable waste of time? Four years training for teachers!</p> <p>Make teaching an attractive profession for young people to enter and you'll get the higher calibre student and you obviate the need for all this rubbish.</p> <p>What do you make of it? Goodness sake! Four years - you trying to justify your existence Professor Dunkin? The University of New South Wales Professor of Teacher Education.</p>
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Needless to say, I had better things to do than rise to Jones' bait! Rhodes Scholar and former schoolteacher that he was, he was obviously ignorant of the fact that four-year graduate teacher education programs in Australia had existed for several decades!

A much greater honour awaited me in Launceston in 1996 at the hands of Professor John Braithwaite, who had gone on from Macquarie University to a Chair in Education at the Launceston campus of the University of Tasmania and had also been elected President of the Australian Teacher Education Association:

**FELLOW OF THE
AUSTRALIAN TEACHER EDUCATION ASSOCIATION**

Professor Michael Dunkin

At the 1996 Annual Conference held in Launceston the Executive elected Professor Michael Dunkin as a Fellow of the Australian Teacher Education Association. By so doing, the Association recognises the "sustained and significant contribution" Mick has made to Teacher Education and to the Association. Over his career in tertiary education Mick has followed on from his seminal publications with Bruce Biddle, to research and publish in a wide variety of areas in teacher and tertiary education. His scholarship was recognised when he was appointed editor of Teaching and Teacher Education to succeed its founding editor Professor Nate Gage. Mick has developed a formidable international and national reputation in teacher education research and practice. He has served the Association in a variety of roles including President and member of the Executive. Accordingly, as President at the time of the Conference, I was extremely pleased to award the Fellowship of the Association to Mick

Professor John Braithwaite
Department of Education
University of Tasmania

Chapter 6: Retirement Bliss

My retirement party at The Lakes Golf Club was blissful. About 100 of my dearest ones were there. I wore my recently acquired dinner suit to which was added a gift from Annie Welch. Annie knew that I had played billiards and snooker every Wednesday night at North Ryde Golf Club with Bruce Roberts for 19 years. Accordingly, she presented me with a fancy, silk waistcoat featuring 13 pictures of a wolf called "Wile.e." sitting at the wheel of a bright red convertible with its top down and a surfboard projecting from the back seat. The word "CRUISIN'" appeared in gold letters with each picture, and there was a chalk cube on a chain in one of the small pockets. Such fun! I was also presented with the first set of new golf clubs I had ever owned. Several of my cups were full that night! The only guests missing were my daughter, Kim, and her husband, Rick Pinnock, but they had a good excuse, for their second son, Graham, had been born only a few days earlier. I called him my birthday boy, because he was born only four days before my birthday.

The first item of a professional nature that happened in my retirement was a visit to the University of Brunei Darussalam to deliver a Key Paper on current trends in teaching practice at the National Colloquium on Teacher Education. My good friend, Maurice Galton, from the University of Leicester, also presented a paper. While there we viewed the Sultan's attempt to improve the lives of his subjects who were living in unsewered shacks on stilts above the lagoon. Not far away, on dry land was a beautiful new housing estate, totally unoccupied. The denizens chose to stay where they were, had grown up, and as their ancestors had lived for centuries. Now there was a challenge for education for development!

There was another sad side of that visit, however. My dear friends, Barbara and Tony Barrett, from Pergamon Press days, had a daughter, Justine, who was working as a schoolteacher there. I was keen to meet her but that became impossible because there was only a communal phone in the building where I was staying and, although I was able to leave messages on Justine's answering machine, she was unable to contact me. Thus, I missed out on seeing her. Tragically, she was killed in a car accident only a few weeks after I left for home.

In 1997, I became a Visiting Scholar in the Faculty of Education at the University of Sydney and used to spend one day a week there. My intention was to write a book on synthesising research in education but that did not happen. Apparently a strong urge to rest overcame me. I was also Honorary Visiting Professor in Teacher Education at the St. George Campus, where I continued teaching postgraduate courses until the end of 1998. Early in 1997, I received an invitation to present a paper on methods and issues in assessing teachers' effectiveness at a meeting to be held at UNESCO headquarters in Paris. Needless to say, I was greatly excited by that, and so Iris and I flew out of Sydney on Friday, 15 August, 1997, heading for Jakarta, Indonesia. We spent a week with daughter, Linda, and Martin Dennett, whom she had married earlier that year, and who were living there. Dr. Aria Djalil, who had become Attaché for Cultural and Educational Affairs at the Indonesian Embassy in Canberra (see chapter 4), arranged for me to participate in a one-day discussion with senior officials of the Department of Education and Cultural Affairs about teaching, teacher education and research on teaching.

After a wonderful time with Linda and Martin, we flew to Paris. There I discovered that there would be no meeting because the time was inconvenient for the other participants, and so I gave the printed version of my paper to UNESCO and we had a week's holiday in Paris at UNESCO's expense. The paper was subsequently published in UNESCO's

World Education Report and, again, back home (Dunkin, 1997). While in Paris, we met Neville Postlethwaite, co-editor of the International Encyclopedia of Education, who invited me to become a Fellow of the International Academy of Education. I was pleased to accept that compliment. Dear friends, Donald and Ann McIntyre, from our time at the University of Stirling in 1975, had bought a house in the tiny village of Bardou in the Languedoc region in southern France and had invited us to visit them. Thus, we flew to Toulouse, where they met us. We had a wonderful week with them and Ann's brother, Robin Brown, visiting places like Carcassonne, Narbonne, several wineries and lots of restaurants. Just as we were about to leave, sad news of the death in Paris of Diana, Princess of Wales, came through.

After leaving France, we flew to Charlottesville, Virginia, to visit the Dershimers and Coopers again, then to Birmingham, Alabama, to visit the Buckleys and then to Stanford to stay with the Gages for a few days. By the time we arrived home on United Airlines flight UA863, in the care of a pilot named Captain Passwater (!), on 27 September, we were exhausted but had had a marvellous time. Thank you, UNESCO.

■ PROFESSOR Mick Dunkin, visiting professor at the University of Sydney's faculty of education's school of educational psychology, measurement and technology, has been elected a member of the International Academy of Education. He is one of only six Australians to have received the honour.

■ LINCOLN University has awarded four aca-
Campus Review, January 28-February 3, 1998

Back in Oz, Iris and I swapped vehicles with the Pinnocks and drove Rick's wonderfully designed and built camping machine to Carnarvon Gorge in Queensland and visited friends and rellies in several places along the way. Then, a few weeks later I had a fall at a party associated with the AARE annual conference at the university and could not get up. A kind colleague drove me home and an ambulance was called. It took me to Concord Hospital where a scan found that I had a sub-dural haematoma - that is, a mass of blood that had been pressing on the right side of my brain - hence the loss of control on the left side of my body and the fall. I recalled having trouble getting my left leg into the passenger side of the car when Iris was driving. The upshot was that three burr holes were drilled in my skull and the blood drained off. One of the holes was very obvious and I was able to have fun with it with my grandchildren ever afterwards. The cause was a fall I had had down a small flight of stairs on the Dunkin family houseboat one Saturday night several weeks earlier. I had enjoyed myself too much on the foredeck on a beautiful spring night and banged my head on the galley table as I fell on my way to bed.

In 1997, opportunities to do contract work with AusAID, the Australian international aid authority, opened up. That year I was a consultant on proposals for aid projects in higher education. In 1998, I was a consultant on the Baseline Testing Phase of the Primary and Secondary Teacher Education Project (PASTEP) in Papua New Guinea. That job took me to PNG with a team led by Associate Professor Philip Clarkson of the Australian Catholic University in Melbourne. We arrived in Port Moresby on 15 October, for briefing by local AusAID officers, before moving to Lae for a week visiting the University of Technology, and then to Madang for a week, to Port Moresby for debriefing, and returned to Sydney on 2 November. That project was hard work, culminating in a final report in December, 1999. An acknowledgement of my part appeared in the report thus: *"During the Development Phase of this investigation (July - December, 1998) Professor Michael Dunkin was a member of the research team. He*

added many insights during the development of the schedules and wrote aspects of the design." (Clarkson, Hamadi, Kaleva, Owens & Toomey, 1999, p. 45)

The most disturbing phenomenon in the early years of my retirement was the attempt by the Vice-Chancellor of UNSW to close and sell off the St. George Campus. A group of staff and I formed an action group to see that the sell-off would not occur (the closure could not be reversed). We aimed at the cross-bench members of the NSW Legislative Council, who held the balance of power in that chamber. We lobbied such people as Ian Cohen, famous for having demonstrated against a nuclear-armed US warship entering Sydney Harbour by riding a surfboard dangerously close to the ship, and his colleague, Lee Rhiannon, both Greens.

We ended up winning. The NSW Government disallowed the sale, refunded some millions of dollars to the University of New South Wales to cover capital investments the latter had made in the St. George campus. The campus was turned into what is now called the Georges River College, where the last two years of high school and technical and further education courses are offered. To placate the likes of us, the government undertook to ensure that teacher education would be represented in the college. However, it would need only to have teacher education students doing practice teaching there to fulfil that obligation.

The real highlight of 1998 was the camping trip to the Kimberley from 6 June to 5 July, in the company of Russell and Win McDonald and another couple of their friends. That was nearly all fun and was certainly far removed from being a researcher. I continued teaching postgraduate courses at the St. George Campus of UNSW. The year ended on a high note when in November in Adelaide I was made an Honorary Life Member of the Australian Association for Research in Education (AARE), the body I had worked hard to help establish nearly 30 years before. On the research front, my career seemed to have come to end by the time the new millennium arrived. Alas, my former St. George colleague, Rhonda Craven, remembered me after she had moved to the University of Western Sydney. She invited me to help with two projects she and her new colleague, Christine Halse, had just undertaken. They asked me to research and report on the place of Aboriginal Studies in Australian primary schools (Dunkin, 2001) and the place of indigenous studies in preservice primary teacher education in Australia (Dunkin, 2002). I set to work in areas I had not researched before and enjoyed greatly using the internet for the first time for serious research purposes. Oh, boy! To think that I had nearly missed out on that joy!

My final fulfilment came when I was invited to write a chapter for a book by Nira Hativa from Tel Aviv, Israel, and Peter Goodyear, then from Lancaster University but soon to move to the University of Sydney. My chapter was entitled, *"Novice and award-winning teachers' concepts and beliefs about teaching in higher education: Effectiveness, efficacy and evaluation"* (Dunkin, 2002). I rate that as probably the best thing I had ever written. It is significant that most of the content of that chapter came from my days at the University of Sydney during the 1980s.

In 2001, the 4th Edition of the *Handbook of Research on Teaching* edited by Virginia Richardson appeared. In it was a chapter written by dear friend, Greta Morine-Dersheimer (2004). It had the title *"Family Connections" as a Factor in the Development of Research on Teaching*. In a section called *"Distant Cousins"* Greta wrote:

Some interesting cross-national collaborative relationships have occurred in the field of research on teaching, and these are analogous to interaction between distant cousins. Researchers in such relationships

might visit each other on occasion, but much of their communication is by mail (now e-mail). These circumstances limit the extent of their collaborative efforts to some degree, but some very productive contributions to the field have resulted from these types of relationships, nonetheless. Australian Michael Dunkin is notable for these types of collaborations, having worked with Bruce Biddle on an early, influential review of research on teaching (Dunkin & Biddle, 1974) and with N.L. Gage on development of an influential research journal, Teaching and Teacher Education. The collaboration of distant cousins illustrated here focuses on Gage's and Dunkin's simultaneous realization that the international scope of the field of research on teaching could be enhanced by creation of such an international journal. (p. 48)

Greta wrote an excellent account of the Gage-Dunkin relationship, but I sometimes wonder how many "Brit" friends I lost by the "personal communication" she acknowledged. Needless to say, Greta and I had become very good friends by that time but that had nothing to do with her becoming the fourth editor of the journal.

The journal, Teaching and Teacher Education, initiated as a result of efforts by Gage and Dunkin, expanded dissemination geographically, providing researchers with a greater awareness of international developments in research on teaching. Gage was a member of the advisory board of the first edition of the International Encyclopedia of Education (Husen & Postlethwaite, 1985), published by Pergamon Press. The idea for an international journal grew out of discussions of this advisory board. Robert Maxwell, the head of Pergamon Press initially invited Dunkin to serve as editor of Teaching and Teacher Education (TATE). Dunkin had coedited with distinction the section on "Teaching and Teacher Education" in the International Encyclopedia of Education and had been chosen to edit the single-volume encyclopedia on teaching and teacher education (Dunkin, 1987). He knew the international experts and recommended people to serve as the first members of the journal's editorial board. Maxwell invited Gage to chair the editorial board, but Gage declined, believing that the arrangement of two leadership positions would be unwieldy. Subsequently, Maxwell named Gage as editor, possibly in the belief that sales in the United States would be greater with a well-known American editor. Gage selected Dunkin and Sara Delamont (University College, Cardiff, UK) as the two associate editors. Gage wrote the statement of the scope and purpose of the journal and served as editor for the first six issues. When eye problems made editing duties difficult, Gage resigned as editor, and Dunkin was appointed editor, serving in that capacity for 6 years.

A major benefit of TATE has been to introduce American researchers to the work of their counterparts in other countries. As Sara Delamont puts it, American researchers "need to know that the network is international and that this is a good thing" (Delamont, personal communication, July 31, 1996). Neville Bennett, TATE editor from 1992 to 1998, has expressed similar views, noting that "U.S. researchers in general (there are some remarkable exceptions) are a pretty ethnocentric lot, and we Europeans have the feeling that our research does not travel west half as well as theirs travels east" (Bennett, personal communication, August 1, 1996). From Australia, Dunkin has observed that "Americans were not the only ones who did not know the international literature. The Brits

were just as ethnocentric" (Dunkin, personal communication, September 9, 1997).

My name did not appear at all in the name indexes of the first two editions of the *Handbook of Research on Teaching*, which had been published in 1963 and 1973. It appeared on 38 pages of the third edition, published in 1986, and on 14 pages in the fourth edition, published in 2001. There is evidence of the rise and fall of me in those figures!

At last I took my final bow to the world of encyclopedias with an entry (Dunkin, 2003) in the newest one, *The Encyclopedia of Education*, whose editor-in-chief was James W. Guthrie. One of my mates, Jim Cooper from the University of Virginia, who was an Associate Editor for the encyclopedia, invited me to write this under the title of *Teacher Education, International Perspective*.

Possibly the last active involvement I had in education research was as convenor of the Student Research Grants Committee of the NSW Institute for Educational Research. I occupied this position for the years 2005-2009. My colleagues on the committee were Professor Christine Halse, from the University of Western Sydney, and Dr. Alan Watson, former colleague at UNSW. Each year applications for these grants were made by a handful of post-graduate students at New South Wales' universities. When applications closed on about 8 December each year we would inspect them, apply the rules, send e-mails to each other and finally decide, sometimes before lunch at my home, and make our recommendations to the Executive Committee of IER. Hopefully our work contributed to the development of the researchers of that generation to the benefit of educational knowledge and practice.

My good friend, sponsor and mentor Nathaniel Lees Gage, Professor of Education at Stanford University, and leading figure in research on teaching since the 1950s, had 141 publications to his name (Berliner & Rosenshine, 1987) by the time he was 70. By the time I turned 70 my score was as follows:

Books:	5
Chapters in books:	36
Articles in scholarly journals:	39
Invited addresses, papers, public lectures, etc.:	24
Conference papers:	19
Reports:	10
Book reviews:	9
Total	142

If only mine had been as good as Nate's!

And then, out of nowhere a lovely e-mail arrived from someone I had never met :

Professor Dunkin:

.....
.....

I .. want to say thank you for how much you have contributed to my own education, and to that of all my own doctoral candidates over the years. Every one of them read Dunkin and Biddle, chapters from your

encyclopedia, and, of course, a great deal from T&TE (which we use in place of TATE), a journal to which you gave more than your share.

So that [that] does not sound like empty flattery, let me ground it in a recent experience. I did a chapter in the Second Handbook (Travers) and have always wished that I had your Study of Teaching book in hand when I wrote - it would have helped me to produce a very different and much superior conceptual framework. One of my students did a chapter for the most recent iteration of the Handbook (Richardson), however, and to my surprise (and delight) she built her framework around the famous analytic diagram from Dunkin and Biddle. Life, indeed, is a circle.

All of this was put in focus when I read the two brief history accounts from Delamont and Dunkin in the May issue. I had been browsing it because T&TE will be the subject of a "Research Journal of the Month" review at my website (the January issue), and I wanted to be accurate about the origins of the journal. Statistics with the good Dr. Gage was a rite of passage at Stanford, and I always find it fascinating to hear and read accounts of his various other personas (not all the same). In any case, you did it again and I came away with a much improved sense of what people mean (and don't mean) when they say "Nate Gage started T&TE."

Thanks,

Larry Locke

Thank you, Larry. I could do with as many compliments like that as I can get.

Enough of this self-indulgence, for that is exactly what it is. I have pretended that I have written this in answer to a question Jon Michie asked. He said, "Mick, what did you do?" and that was trigger enough. I have written all this about myself because I have delighted in it. I have had such a wonderful life that I just love to re-live it at every opportunity. There is a little more to it than that, however. In my old age I regret not knowing much at all about my ancestors, especially my own father, who died when I was only 22 months old. For what it is worth, I want to make sure that anyone who comes after me and wants to know more about me will have this chance, at least. Thank you, Jon, for wanting to know.

Chapter 7: Epilogue

In retrospect, my research on teaching occurred in four stages over four decades, during which it acquired several different facets as I moved from institution to institution, as resources changed from time to time and as my interests developed. I started in the 1960s mainly with paper-and-pencil data concerned with primary school teachers' values, perceptions, expectations, anticipations, and needs - all aspects of teachers' cognitive behaviour - during my doctoral studies at the University of Queensland.

At Macquarie University, the University of Missouri, the University of Stirling, and Stanford University, during the 1970s, I moved seriously to researching actual classroom behaviour (as recorded on electronic devices) in relation to other classes of variables (presage, context and product) and large-scale syntheses of earlier research (Dunkin & Biddle, 1974). By the time I left Macquarie, I had acquired an international reputation as an authority on the nature and accomplishments of research on school teaching.

The 1980s were spent at the University of Sydney researching more widely. While my efforts were focussed still on teaching, they switched to the higher education context. Although my role as adviser on professional teacher development in the university involved much observation of overt teaching behaviour in the university, my research became mainly concerned with the thoughts of teachers in higher education. But my concerns expanded to encompass professional career issues affecting those teachers - induction, tenure, promotion - in particular, as well as evaluation and publication. The predominant method of data gathering had now become the interview and much of the data gathered were qualitative rather than quantitative. It was also during those years that I wrote the chapter on research on teaching (Dunkin with Barnes, 1986), took on the role of editor with encyclopedias and a new international research journal. These stimulated further emphasis on synthesising research on teaching. By the time I left the University of Sydney, I had acquired an international reputation as an authority on research on teaching in higher education.

Finally, the move to the University of New South Wales in the 1990s saw me adopting three new directions: initial teacher professional education, teacher knowledge, and program evaluation. Nothing in my past had involved me in program evaluation, but at UNSW our research became very much of that ilk. Interviewing again was the principal method employed in obtaining information that permitted judgments about the efficacy of practice teaching (the practicum), the teacher education course work, and the development of student teachers from earlier stages to later stages of the program. The project on teacher knowledge enriched my experience further, especially as it gave my colleagues and me an opportunity to use the method of *stimulus recall* interviewing in tapping teacher cognitions.

At the same time, my immersion in the synthesis of research on teaching continued mainly in the form of my critique of the Kagan review, which began at the University of Virginia with Jim Cooper and Greta Morine-Dershimer. This might well have been called *forensic synthesis*. I have it on good authority that my report published in the

Review of Educational Research (Dunkin, 1996b) became widely used in graduate programs in Education.

By the time I retired on 16 August, 1996, I was 60 years old, I had worked in most, if not all, of the methodological traditions associated with the social sciences. I had worked in five different universities in Australia, five in the USA and one in Scotland. I had been a teacher for over 40 years. I deserved a rest. I needed to reflect on my past, present and future. I had benefited so much from the love, support, and generosity I had received, it was time I forgot about worldly ambition, status and reputation (except for golf!). I was at the disposal of anyone who might benefit from my efforts. Altruism was my new goal.

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APPENDIX A

N.L. Gage's account of the founding of

Teaching and Teacher Education:
An International Journal of Research and Studies
Volume 4 Number 2 (i-ii)

The intersection of two series of events led to the founding of *Teaching and Teacher Education: An International Journal of Research and Studies* (TATE). One was the work, initiated by Robert Maxwell, on the *International Encyclopedia of Education*. The second was my own work and thinking about research on teaching.

Mr. Maxwell's work included, in its early stages, a meeting in June 1980 at Headington Hill Hall. The meeting, co-chaired by Mr. Maxwell and Torsten Husen, brought together a group of scholars from several countries to lay the plans that resulted in the publication of the *Encyclopedia* in 1985. One by-product of that meeting was my introduction to Pergamon Press — its resources, capabilities, and visible products in the form of extremely impressive publications. At the end of that meeting, I had a strong conviction about the ability of Pergamon to publish scientific and scholarly works of the most demanding and technical character.

My own thinking about the field of research on teaching had led me to see an international journal as a desirable next step. The field had grown rapidly since the early 1960s, interesting work was being done in many countries, workers in those countries knew too little about work in other countries, and theory and research of cross-national significance would be fostered by an international journal. Sponsorship by a national association for educational research (AERA, AARE, BERA) was inappropriate for an international journal. So it ought to be put out by a publisher with international orientations and capabilities.

Then in the fall of 1982, I accepted an invitation to be a visiting fellow of Brasenose College, Oxford University, for the autumn term of

1983. Now, proximity would enable me to discuss the idea of the journal with Pergamon more easily.

Accordingly, during the spring 1983 AERA meetings, I approached Ms. Barbara Barrett, Pergamon's editorial representative in the exhibits hall, with the idea of an international journal of research on teaching to be published by Pergamon. We agreed that the idea would be further discussed when I arrived in Oxford during the summer.

Upon our arrival in Oxford, my wife and I were invited to lunch with the Maxwells at Headington Hill Hall. Mr Maxwell and I made a date to talk more about the journal. I also learned that such discussions had already begun with Dr. Michael J. Dunkin, who had just finished his work as section editor on teaching and teacher education for the *Encyclopedia*. The initial idea was that Dr. Dunkin would edit the journal, and I would chair the editorial board. This arrangement, however, was soon determined to be unwieldy, decentralizing authority undesirably. After further discussion, including transoceanic conversations with Dr. Dunkin, who was in Sydney, a decision was reached: I would be editor; Dr. Dunkin would be one of two associate editors. During a telephone conversation with Dr. Dunkin, I was convinced by him that the journal's name should give full standing to teacher education. Dr. Dunkin's idea — *Teaching and Teacher Education* — met all requirements and became the journal's title. The subtitle indicated its international character and openness to both empirical ("research") and nonempirical ("studies") papers. It is noteworthy that, a year later, when researchers in this field organized a

* A contribution from the Founding Editor of *Teaching & Teacher Education* in celebration of the 65th birthday of Robert Maxwell and the 40th anniversary of Pergamon Press.

new division of the American Educational Research Association, they named it the Division of Teaching and Teacher Education.

During my autumn at Oxford, I received a visit from Dr. Sara Delamont, a well-known qualitative researcher who had written about research on teaching. She was also at that time president of the British Educational Research Association. About 2 months later, after much thinking and consultation, I invited her to serve as an associate editor, and she accepted. After consultation with Drs. Delamont and Dunkin, I invited distinguished scholars in the field to serve on the International Editorial Board, and all of them agreed to serve.

In the meantime, guided by Ms. Barrett, I had prepared and Pergamon had mailed, to about 100 research workers around the world, a questionnaire concerning the desirability, feasibility, and character of the journal being considered. For this survey I prepared a statement of the scope and purpose of the journal. The responses to the survey were extremely high in rate of return, favorability, and thoughtfulness. Pergamon decided to invest in the journal. The statement of scope and purpose was eventually published as the introductory editorial in the first issue.

The journal has gone well. In the spring of 1986, after editing its first six issues, I felt constrained by eye problems to give up the editorship, which Dr. Dunkin, whom I considered to be unquestionably the most desirable next editor, was able and willing to assume. He also had the idea of inviting Dr. David C. Berliner to become an associate editor. To my delight, Dr. Berliner, long my friend and co-author and then president of the American Educational Research Association, accepted. Dr. Dunkin and his associate editors have continued the work. In addition to maintaining the journal's quality,

Dr. Dunkin has appreciably reduced its publication lag, increased its use of expert referees, and appointed Dr. Robert Crocker as book review editor. He has also reported to the International Editorial Board the statistics on the journal's authors, papers, and referees. As of Volume 3, Number 4, the journal is thriving. Its papers have come from some 20 countries, and its subscriptions have come from even more countries.

In one of our conversations, Mr. Maxwell and I agreed strongly on the desirability of involving scholars in Eastern Europe, especially the Soviet Union. Mr. Maxwell referred briefly to his supporting the editor's travel to Moscow to discuss the matter. In early 1985, Professor Mikhail Kondakov, President of the USSR's Academy of Pedagogical Sciences, expressed interest in the journal during a visit to Oxford. Accordingly, I pursued the matter, and by late August 1985, Dr. Dunkin and I had visas. We met with Professor Kondakov in Moscow and with the Director of the Institute of Adult Education, which deals with teacher education, in Leningrad in late October and early November 1985. Dr. Dunkin and I felt encouraged to hope for eventual Soviet participation in the journal.

One memory remains vivid from one of my Saturday morning meetings with Mr. Maxwell during the summer of 1983: As we were parting, I said something like, "A journal like this must be pretty small potatoes in your affairs." (I had been reading in the magazines and newspapers of that summer about other negotiations in which Mr. Maxwell was engaged.) His reply could not have pleased or impressed me more: "But education is important, and teaching is especially so." Brief and to the point.

N. L. Gage
Founding Editor

APPENDIX B

M.J. Dunkin's account of the founding of

*Teaching and Teacher Education:
An International Journal of Research and Studies*
Volume 20, Number 4, 327-328

A history of the beginnings of TATE

By all accounts, a journal in the field of teaching and teacher education was mooted at a meeting in 1980 of the International Editorial Board of the *International Encyclopedia of Education* edited by Torsten Husen and Neville Postlethwaite, eventually published in 12 volumes by Robert Maxwell's Pergamon Press in 1985. Nate Gage was a member of that board and he might have been the one to do the "mooting". One of the sections of the encyclopedia was "Teaching and Teacher Education", named by me after Gilbert De Landsheere and I were appointed co-editors of that section. At a meeting of section editors of the encyclopedia held in the Bahamas early in 1981, the possibility of a new journal in that area was again mentioned, but, to my knowledge, it was not until I was invited to Pergamon's headquarters in Oxford in 1983 that the subject was raised again. I was invited, as a "reward" for the work I had done on the 12 volume encyclopedia, for the purpose of presenting a design of the first of a planned series of "spin-off", single volume encyclopedias that was eventually published in 1987 as "The International Encyclopedia of Teaching and Teacher Education: Research and Studies".

At that meeting on Sunday, 29 May, 1983, chaired by Robert Maxwell, my design for the single volume encyclopedia was accepted and I was appointed its editor. After discussion of the need for an international journal in the same area, the idea was accepted and I was appointed its editor. I was asked to provide a list of international scholars who might be surveyed as to the desirability of such a journal and charged with the responsibility of drafting a statement of the journal's aims and scope. I was also asked to recommend scholars in the field who might be appointed Associate Editors and others for mem-

bership of its International Editorial Board. The first of those tasks was easy and before I left Oxford, I provided a long list of people, drawn from the authors of entries accepted for the multi-volume encyclopedia.

Upon my return to Australia, I wrote to Nate Gage, informing him of the approval of plans for the new journal, of my appointment as its editor, and seeking his advice regarding the appointment of someone from the USA as an Associate Editor. He replied, expressing the view that a person I had suggested was unsuitable.

Subsequently, it was reported to me that Pergamon's survey of the list of scholars I had provided had indicated strong support for such a journal. Some months later, Neville Postlethwaite wrote me a personal letter informing me that Gage was in Oxford on sabbatical as Pergamon's guest and had been discussing the journal with Maxwell and that Maxwell had decided to appoint Gage as its editor. Postlethwaite wrote that he had urged Maxwell to contact me about the matter. Some time later I received a phone call from Maxwell informing me that he had decided to appoint Gage editor on the grounds of his fame and seniority. I was to be the journal's Associate Editor, along with Sara Delamont, who was subsequently invited, as reported in Sara's piece in this issue.

Gage commenced work on the journal, the first number of which appeared early in 1985. During that year, I went to England on study leave to finish the single volume encyclopedia mentioned above. While I was there, Gage and I went to Russia to discuss the journal with leading USSR educators, with a view of attracting their interest and support. We were looking for scholars who might become members of the International Editorial Board and who might encourage authors

to submit manuscripts for publication. We flew to Moscow on Thursday, 24 October, 1985. As an Australian, I proceeded through the immigration check with no trouble at all. Gage, however, was treated with suspicion, with the immigration officer looking repeatedly at Gage's visage and then at his passport as if to say that the photograph could not possibly be of the real person. Eventually, he was admitted and we were escorted by an Intourist person to our hotel, the Cosmos, which in cyrillic script appeared as the Kocmoc.

Gage's room was filthy and so we complained and he was allocated a different room in which the red light on the telephone would not disappear. Could this be a sloppy attempt to bug the American's room? Such paranoid thoughts were brushed aside and, later, we met in the lobby to have dinner together at the "Pectopar at the Kocmoc" and subsequently experienced the trauma associated with attracting Russian waiters' attention, which was to plague us for the rest of our visit.

While in Moscow we had a meeting with Mikhail Kondakov, President of the Academy of Pedagogical Sciences of the USSR, the most powerful person in education in the whole USSR, and his associate, Dr. Vladimir I. Kozyr, Director of the Foreign Relations Department of the Academy. The next day we travelled through the

night by train, in sleeping compartments, to Leningrad (now St. Petersburg again), where, on Friday, 1 November, we met Victor Onushkin, member of the USSR Academy of Pedagogical Sciences, and President of the Leningrad branch of the USSR–USA Society. Alas, these meetings were to no avail, for, to my knowledge, no nominations were ever received for membership of the International Editorial Board, and no manuscript was ever submitted from the USSR. I wonder if the journal ever had a subscriber from that part of the world?

Early in 1986, Gage was forced to retire from the editorship of the journal for health reasons and I took over as editor at the AERA annual meeting in San Francisco in April. I, thus, inherited a set of manuscripts edited by Gage but still to be approved for publication. To see the editorial work done on those MSS was awesome! To realise the difficulties under which the meticulous work had been done was more. It was uplifting! I had the most challenging standard imaginable to match!

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APPENDIX C

Extracts from the minutes of a meeting held at
Pergamon Press, Headington Hill, Oxford, on 29 May 1983.

Minutes of meeting between Mr Robert Maxwell, Professor T.N. Postlethwaite,
Dr M.Dunkin and B. Barrett, 29 May 1983

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6. Journals

a) International Journal of Teaching and Teacher Education

I R Maxwell agreed to the setting up of this journal under the editorship of Dr Mick Dunkin, to be launched in January 1985. The first volume should consist of a symposium convened on paper of a key topic in the field. Later issues would contain articles on original research in the field. Editors should be selected with a view to launching an international association. Dr M Dunkin to prepare an aims and scope and names of possible members of the editorial board. £50,000 - £100,000 would be made available.