

THE USE OF A DISCREPANCY APPROACH IN THE  
EVALUATION OF A TEACHER EDUCATION PROGRAM

JOHN M OWEN  
JOHANNA WYN  
JUNE SENYARD

Centre for Program Evaluation  
Melbourne College of Advanced Education

ABSTRACT

Using the Auchmuty Report (1980) recommendations as an external reference, comparisons between the needs of beginning teachers and the quality of their pre-service education were carried out as part of a comprehensive evaluation of a Diploma in Education course. The course examined consists of several parallel Programs, each with a different philosophy and structure. The results showed that the needs of beginning teachers were generally congruent with the recommendations of Auchmuty. There were, however, discrepancies between teacher needs and the perceived emphases in the course. The larger discrepancies mainly occurred in aspects of the program which dealt with teacher-student interaction. A second analysis showed that there were different emphases according to the Program students chose to undertake within the course.

INTRODUCTION

This paper describes the use of a discrepancy approach as a means of providing information from which informed decisions could be made about modifying an existing teacher education course.

An important characteristic of the course, a Diploma in Education (Dip Ed), is the existence of a set of parallel Programs within the course. The Programs grew out of a belief at the College that there should be a variety of approaches to teacher education which would cater for the preferences of students and the staff involved in teaching the course.

Each Program has two major components; foundation studies and method studies. While method studies are conducted by staff from discipline based departments (e.g art, geography, mathematics, etc.) foundation studies are conducted by Teams of staff drawn from members of the departments of curriculum studies, sociology, and educational psychology. Differences between the Programs are largely dependent on the treatment of the foundation study element, indeed methods are offered across rather than within Programs. While there have been up to seven such Programs running at the one time, this evaluation focussed on the four of these which were offered in 1983.

To illustrate the degree of difference between the Programs a brief description of each is given below.

Program B is based on a core/elective approach. The core consists of studies within the traditional areas of curriculum, sociology, and psychology. The electives offered reflect a range of contemporary issues and are mainly offered within the framework of the areas described above.

Program C is based on a school approach. The Program is linked closely to current educational issues and is largely conducted in schools.

Program D is based on a contractual approach. Students and their tutors negotiate, in

advance, the work students will carry out each week. In general, the approach is cross disciplinary, and there is a high level of interaction between students and Team members.

Program E is based on an electives approach. Students select from a wide choice of options offered by staff across the College. As with Program D there is a high interaction between students and Team members; Team staff play a strong co-ordinating role in assisting students to choose a balanced selection of available options.

Recently, the College was faced with implementing a reduction in allocation of student numbers for Dip Ed. The evaluation, was seen as one input to making decisions about which of the Programs would be maintained within the new structure.

#### DATA COLLECTION

As one part of the evaluation information was collected from 1981 and 1982 graduates about their present occupation, including their satisfaction with teaching. We also gathered data about their needs as beginning teachers. The major focus, however, was to tap their opinions of the Dip Ed course. We encouraged graduates to use open ended responses to describe their perceptions of the strengths and weaknesses of the course, and to provide any suggestions for changes. To examine links between current needs and opinions of the course, it was decided to use priorities for post graduate teacher education courses, established by the Auchmuty Report (1980), as a basis for organising some of the questions. Graduates were asked to rate the extent to which a range of the core elements of a first course in teacher education, as suggested by the Auchmuty Report, were emphasised in their own training. They were also asked to rate the importance of each of the elements to them as teachers. Fourteen items were developed which were answered using a four point Likert format. This information allowed a three way discrepancy analysis, comparing:

- i) the emphasis on teacher education outlined in the Auchmuty Report statements with the reported emphases in the Dip.Ed. course.
- ii) the emphasis on teacher education outlined in the Auchmuty Report statements with the concerns of beginning teachers and
- iii) the reported emphasis in the Dip.Ed. course with the needs of beginning teachers.

In addition to recently graduated teachers it was our intention to survey graduates who had been teaching for about five years. However, it became evident that little information existed from which to begin a search for this group. Also, some evidence was found (in nurse education) that graduates' opinions of their training courses were stable over a period from graduation to over five years of work in their profession.<sup>1</sup> We therefore decided to survey the 1981 and 1982 graduates. Thus information was available from the perspective of the beginning teacher, and from those with 18 months experience. We made the assumption that the patterns held for graduates who had been teachers for a longer period of time.

College records were used to locate 1981 graduates, and collaboration with Graduate Careers Council at Australia (GCCA) survey allowed us to contact 1982 graduates. Using these methods, we sent questionnaires to 270 graduates (146 from 1981, 124 from 1982). After follow up letters and telephone calls to 1982 graduates, 172 usable responses were coded. This gave us a response rate of 64 per cent. Of the 172 respondents, 100 were 1981 graduates and 72 were 1982 graduates. While this return rate was not completely satisfactory, it was considered adequate,

<sup>1</sup>J. Crook, C. Woodward, E. Feldman, "A question of Timing: When is the Best Time to Survey Graduates to Obtain Feedback about an Educational Program?" in *Assessment and Evaluation in Higher Education*, vol. 7, No 2 Summer 1982, pp 152-58.

TABLE 1  
A COMPARISON OF THE GRAND MEAN SCORES ON  
EMPHASES IN COURSE AND IMPORTANCE IN MY PRESENT POSITION

	○ EMPHASIS	NONE	SMALL	MODERATE	HIGH
	* IMPORTANCE	NONE	SLIGHT	MODERATE	VERY
i) An ability to control classes which I teach	○				*
ii) An ability to translate a curriculum plan into action	○				*
iii) An ability to evaluate my own teaching performance				○	*
iv) An ability to plan a curriculum unit which I teach				○	*
v) An awareness of the ways schools can develop closer relations with the community	○				*
vi) A knowledge of factors affecting the intellectual development of adolescents			○		*
vii) Insights into the interconnections between subjects offered in the school curriculum	○				*
viii) Sensitivity to the range of disadvantages students might face in schools (on the bases of ethnicity, gender, socioeconomic background or physical handicap)				○	*
ix) A knowledge of the factors affecting the emotional and social development of adolescents			○		*
x) A knowledge of recent developments in 'method' areas related to my subject specializations				○	*
xi) An ability to cater for the strengths and weaknesses of individual students			○		*
xii) An awareness of the relationship between schools and the broader social/political context	○				*
xiii) An ability to work with students in different settings (classroom, excursions, camps etc)	○				*
xiv) An understanding of the organization and structure of education in Victoria	○				*

○ emphasis

\* importance

given that we had no control over the returns of the GCCA survey, and that the mobility of recent graduates was known to be high.<sup>2</sup>

## RESULTS

An analysis using year of enrolment in the course as the independent variable showed that almost no difference existed between the responses of graduates in those year groupss. Consequently, the data from the two year groups was amalgamated before other analyses were carried out.

### A COMPARISON OF "EMPHASES IN THE COURSE" WITH "IMPORTANCE TO THEIR CURRENT TEACHING POSITIONS".

In this section we compare the perceived needs of aspects of teaching with the perceived emphases in the course, as seen by the Dip Ed graduates. The data is outlined in Table 1, where the mean value of all responses for each of the 14 items is shown and the measure of discrepancy between the two measures is given. It should be noted that the two scales have different descriptions: i.e. emphasis and importance. However, the measure of discrepancy is a common metric across the 14 items. It is with variations in this discrepancy, rather than any single discrepancy that this analysis is concerned.

The major point to emerge is that there was a wide variation in the size of the discrepancy across the 14 items. The smallest discrepancy was for item (vii), relating to the treatment of disadvantage. The largest discrepancy related to the study and treatment of individual differences among school pupils. There are several items which were: (a) rated as being of high importance to beginning teachers, and (b) had a large discrepancy measure. These items suggested areas where more intensive treatment could be given in the course. They included: class control, translation of curriculum plans into action, teacher self evaluation, and catering for individual differences amongst school pupils. Most of these items described facets of teacher-student interaction as distinct from more general educational issues.

### EMPHASES IN THE DIPLOMA IN EDUCATION COURSE: A BETWEEN PROGRAM ANALYSIS

[Table 2 describes the distribution of the sample according to their Program in 1981 and in 1982. Sufficient numbers of responses representing Programs B, C, D and E were returned to make a comparison of the structured responses according to Program worthwhile.]

TABLE 2

Numbers of Responses: By Program

Team	1981	1982	Total
Team B	37	26	63
Team C	26	21	47
Team D	11	8	19
Team E	19	10	29
Total	93	65	158

To examine whether differences between Programs existed, a one-way analysis of variance was applied to the data. On each of the 14 items Duncan's multiple range test with a liberal level

<sup>2</sup>A small proportion of these responses were from Programs other than those described in the introduction. These have been excluded from the analyses.

**TABLE 3**  
**EMPHASIS IN COURSE**

	NONE	SMALL	MODERATE	HIGH
i) An ability to control classes which I teach		DC XX	EB XX	
ii) An ability to translate a curriculum plan into action		D X	C XX B XX E	
iii) An ability to evaluate my own teaching performance			B XX D E XX D	C X
iv) An ability to plan a curriculum unit which I teach			C D XX X E	B X
v) An awareness of the ways schools can develop closer relations with the community *		B DE XX	C X	
vi) A knowledge of factors affecting the intellectual development of adolescents *			C D XX	E B XX
vii) Insights into the interconnections between subjects offered in the school curriculum	D X	E XX B XX C		
viii) Sensitivity to the range of disadvantages students might face in schools (on the bases of ethnicity, gender, socioeconomic background or physical handicap)			E X	B XX D X C
ix) A knowledge of the factors affecting the emotional and social development of adolescents		D X	E C B XX X	
x) A knowledge of recent developments in 'method' areas related to my subject specializations *			D B XX X E	C X
xi) An ability to cater for the strengths and weaknesses of individual students *		B X X E	D X X	C X
xii) An awareness of the relationship between schools and the broader social/political context *		E B D XX X		C X
xiii) An ability to work with students in different settings (classroom, excursions, camps etc) *	D X	B E XX	C X	
xiv) An understanding of the organization and structure of education in Victoria		B X C X X E	D X	

\* results with high statistical between team significance

↑ grand mean.

B: Program B C: Program C D: Program D E: Program E

of significance (.10) was used to detect differences between groups.

Table 3 contains information about the mean responses of all graduates to the perceived emphases in the course (the grand mean) and the mean values for graduates in each of the four Programs.

The between Program analysis showed that, in general, graduates of Program C tended to respond significantly differently from those of other Programs. For example, graduates of Program C reported a significantly greater emphasis on school-community relations; a knowledge of recent developments in method areas related to their subject specialisations; a greater emphasis on catering to the strengths and weaknesses of individual students; and an ability to work with students in different contexts. However, graduates of Program C reported a significantly smaller emphasis than other graduates on a knowledge of factors affecting the intellectual development of adolescents. There was no generally significant difference between the responses of graduates from Programs B, D and E. An examination of the items considered to be of high importance to beginning teachers (e.g the first four) revealed that they are not only items needing more emphasis, but were also items for which there were no significant differences between Programs. On reflection, these items seemed to cover material which could be covered in methods, at least to some extent, and this suggested that a between method analysis of these items might be illuminative. This is taken up later in the Paper.

These results suggest that Program C offers a distinctive style of teacher preparation compared with that offered by the other Programs. Although each of the Programs is focused on current practices in schools, Program C appears to place greater emphasis on the relationship between the school and its community, and on the broader social and political context in which schools function. As the only Program offering concurrent teaching experience, those in this Program have a greater opportunity to work with school students in a range of settings throughout the year. This may account for the greater emphasis on this aspect reported by Program C members.

#### METHOD EFFECTS

As indicated above, there were clues that the key to determining the emphases in the course between Programs may not have been due to differences in foundation studies (run by Teams) but to the part of the Program in the method aspect. To investigate this further an analysis of the 14 items was carried out using method as the independent variable. To carry out this analysis it was necessary to define several broad method groupings, as there were a total of over 50 method combinations. It was possible to reduce the combinations to form four broad categories:

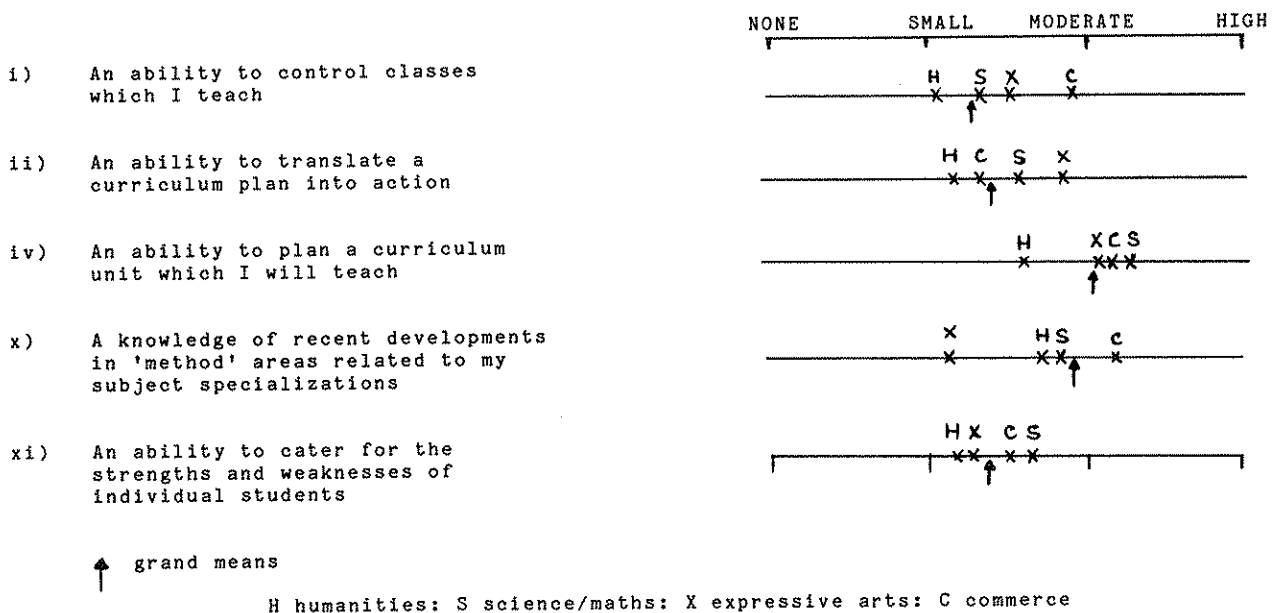
- i) expressive arts; (to be included a student took art/craft method), N=32,
- ii) humanities; (to be included a student took at least one of english, modern language, or social studies), N=62,
- iii) science/maths; (to be included a student took at least one of Junior Science A, Junior Science B, Junior Maths A or Junior Maths B), N=44,
- iv) commerce; (to be included a student took at least one of economics, business studies, or consumer education), N=12.

It can be seen that 150 of respondents were included in the four groups, taken together.

An analysis of covariance allowed the partition of variance between Team and method effects. This enables the effects of methods to be uniquely identified. The results show that

there was a significant difference between the means of the responses, by method, on five of the items relating to the emphasis of the course. These are shown in Table 4. In general, those taking science/maths and business studies methods reported a greater emphasis on course aspects measured by the items than people who had done humanities and art/craft methods. Humanities students reported a lower emphasis during their course on 'an ability to control classes which I teach', 'an ability to translate a curriculum plan into action', 'an ability to plan a curriculum unit which I will teach' and 'an ability to cater for the strengths and weaknesses of individual students. Business studies and science/maths students' responses were generally at the opposite end of the range of responses from humanities students, reporting a moderately high emphasis in their course on planning a curriculum unit, and catering for the strengths and weaknesses of students. Art/craft students tended to report a moderate emphasis on methods, and reported a particular emphasis on 'an ability to translate a curriculum plan into action', although they reported a significantly low emphasis on the extent to which their course had emphasised recent developments in method areas relating to their area of specialisation.

TABLE 4  
 EMPHASES IN THE DIP ED COURSE - BY METHOD GROUPING



CONCLUSIONS

This paper has presented the opinions of recent graduates about a Dip Ed course in the light of their brief experience as teachers in secondary schools. The results suggest that the needs of beginning teachers are consistent with the Auchmuty Report's perspective of what beginning teachers should encounter in their teacher education. The results also suggest that students in the Dip Ed course are not mastering some key areas perceived by beginning teachers and the Auchmuty Report as essential in a pre-service program.

The analyses show that there are differences between the effects of Programs with the the one offered by Team C more consistent with the perceived needs of graduates than the other three Team approaches examined. There were also differences in the impact of methods which cut across the Programs and in general terms methods in Business Studies and science/maths were more consistent with the Auchmuty recommendations than were other broad method groupings.

This Paper has leant very heavily on the the Auchmuty Report as a benchmark for evaluating

the worth of the Dip Ed programs. At least three points must be made about this as a conclusion. First, it seems to us that it is not paradoxical to be comparing Program approaches despite statements that the Programs have different philosophical underpinnings. The reality is that all Programs are preparing graduates with the view that they will teach in secondary schools, and the evidence we have is that the vast majority of graduates teach in Victorian secondary schools. There is apparently a discrepancy between the recommendations of the Auchmuty Report and the general emphases currently held by the Dip Ed staff as a whole. This brings us to the second point. That is that this Dip Ed course was accredited in 1978, almost three years before the Auchmuty Report was published. The Report has thus had a chance to respond to developments in thinking about teacher education while the Dip Ed course has, in a sense, been "locked in" to its accreditation statement. At least some of the discrepancy between Auchmuty and course emphases could be explained by this time variance. Thirdly, it should be made clear that we have no comparative data from which to compare this courses with others. Effectively, we have used a criterion referenced rather than a normative approach in this section of the evaluation.

We believe that the results have supported the Auchmuty view on the priorities regarding the knowledge and understanding which would-be teachers should master. Those associated with the development of this course now have a clear indication of the areas which could be given more attention now than was the case in 1978, when the last accreditation was carried out. There is also evidence about the approaches which best overcome the repeated criticism that pre-service courses lack relevance and are remote from what is happening in schools.

#### REFERENCES

- Auchmuty Report. Government of Australia. National Inquiry into Teacher Education. AGPS. Canberra, 1980.
- Owen, J.M., Senyard, J., and Wyn, J. Evaluation papers for the Diploma in Education at Melbourne College of Advanced Education. Centre for Program Evaluation, Melbourne CAE.
- Paper 1. An Analysis of Characteristics of Recent Diploma in Education Students at Melbourne State College (1977-1982). March 1983.
- Paper 2. Links Between Course Statements and Course Implementation—Some Issues for Further Study. April 1983.
- Paper 3. Recent Developments in Teacher Education in Australia: A Literature Review. May 1983.
- Paper 4. Expectations of Beginning Diploma in Education Students at Melbourne CAE. May 1983.
- Paper 5. Staff Perspectives on the Course in Action. August 1983.
- Paper 6. Beginning Teachers; their Needs and their Opinions of their Pre-service Education. August 1983.