

## Seizing the Opportunity

### Part III : Developing the Matrix of the Dimensions of Teacher Education

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#### Introduction

The development of the Auckland College of Education (ACE) Bachelor of Education (Teaching) degree was driven by a specifically crafted philosophy statement and a carefully researched and structured matrix of the dimensions of teacher education (Lomas, Windross and Landman, 1996). This paper documents the development and form of the Matrix of the Dimensions of Teacher Education developed as a foundation for the degree, the first three year Bachelors Degree in teacher education accredited in New Zealand.

The Bachelor of Education (Teaching) (BEd (Tchg)) “is delivered through ‘modules’ with all individual module outcomes being derived from an over-arching ‘Matrix of the Dimensions of Teacher Education’” (Auckland College of Education, 1998). This matrix is fundamental to BEd (Tchg) development. It identifies 17 professional dimensions and offers further specification by illuminating each dimension in terms of its knowledge, dispositional and performance elements. These elements are the foundation of this degree programme for teacher education.

The motivation for developing such a comprehensive underpinning to this degree was multi-faceted. In the first instance there was a growing (and probably nationally shared awareness) that existing diploma and degree programmes were the product of protracted evolution. Most bore the hallmarks of the long sequence of social and political climates that had shaped and re-shaped them over considerable time. Although there was confidence that the sum total of all the bits making up these programmes was a solid grounding for beginning teachers, there was little formal articulation of how or why this might be so. Indeed, there was no clear statement of

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philosophy or overall articulation of outcomes for existing programmes. A further source of motivation was the Tertiary Action Group's mooted requirements that provider degrees such as the BEd (Tchg) focus on a clear statement of programme outcomes (Tertiary Action Group 1995). These motivational aspects prompted a determination to start from scratch in a revisioning of ACE's approach to teacher education.

Although it is not the purpose of this paper to examine the philosophy statement associated with the matrix, it is essential to briefly touch on some key principles which were first (and very tentatively) aired at a New Zealand Association of Research in Education conference in December 1995. In this paper it was asserted that:

The BEd (Tchg) consciously rejects what Snook (1992) labels 'grotesquely uninformed' attacks on teaching as a learned profession. It is committed to teachers who are more than a product of a merely replicative apprenticeship-type training programme. The vision is for graduates able to combine knowledge, experience, and skills in a wealth of ways; able to read contexts and act accordingly; able to operate at a higher level of thinking; able to demonstrate what Ramsay (1994) called 'professional intelligence in its broadest sense'. The ultimate measure being functional competence as distinct from competencies, an ability to proceed beyond boundaries defined by a repertoire of learned and rehearsed responses or blinkers bound tight by narrow technicist horizons of experience or a lack of inquiry.

The BEd (Tchg) seeks to provide its graduates with fundamental knowledge in, and of, each curriculum area as well as a research-based concept of the complexity of learning and teaching in an academic, societal and political context. (Snook 1992).

The BEd (Tchg) actively strives to produce graduates who are reflective in the broadest sense (after Eraut 1995) and capable beyond 'being able

to function non-disruptively in schools as they exist' (Grundy and Hatton 1995). The principle being that 'future teachers (must be equipped to) deal critically with what exists in order to improve it.'" (Calvert, Mobley, and Marshall 1994).

While clearly the above philosophical elements impact on the structure and delivery of the BEd (Tchg) it is their manifestation in the matrix and therefore in module learning outcomes which are the focus here.

### **The Matrix**

The text of the matrix is a carefully structured response to what, toward the end of 1995, promised to be an overwhelming number of Unit Standards for Teacher Education (Gibbs and Aitken [QUALSET] 1995). However, use of the Unit Standard domain titles 'Works with Students', 'Works with Colleagues... and the Wider Community' and 'Develops Self' enabled clear parallels to be established with the QUALSET documentation. The creation of a new category entitled 'Develops Professional Perspectives' provided the critical fourth Domain, allowing the vertical axis of the matrix to be fully defined.

The horizontal axis was defined as a progressive illumination of the four domains. The first column was headed '*Professional Dimensions*' and ultimately came to include seventeen sub-sets of the four domains. In contrast to the contemporary plethora of over 140 unit standards, these dimensions came to define a manageable number of key elements upon which this revisioning of teacher education hinged.

The labelling of the horizontal axis was completed using a synthesis of the community of practice's 'common knowledge' and terminology applied in a related context by the Interstate New Teacher Assessment and Support Consortium (1995). (See Figure 1).

*Figure 1: The column headings of the matrix*

DOMAINS	PROFESSIONAL DIMENSIONS	KNOWLEDGE	DISPOSITION	PERFORMANCE
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(reflecting the Qualset unit standards titles)	(17 key elements derived from the range of sources)			
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The illustration of each domain in terms of its inherent ‘knowledge’, ‘disposition’ and ‘performance’ elements was not merely consistent with a professional degree’s ultimate obligation to produce informed and effective practitioners. It clearly signposted and acknowledged that dispositional factors are inextricably positioned between knowledge and performance and act as a form of critical catalyst between the two.

It is easy to take for granted, or to cast into the ‘too-hard basket’ the intensely interpersonal nature of teaching and Snook’s (1992) assertion that “attitudes are more important than anything else ... enabling (teachers) to make something of themselves as human beings while helping to create a future for pupils and society as a whole”. While the central significance of teacher-student relationship and the influence of such notions as enthusiasm, belief, expectation, and values on learning are well documented in the literature (Haberman 1995, Abbot-Chapman, Hughes and Holloway 1992) they often do not sit comfortably with the purveyors of unit standards nor with traditional constructs of assessment.

The matrix is in this sense a vehicle of challenge... it puts up front professional and ethical challenges which have not historically been addressed nor articulated adequately in teacher education.

Developing the text of the matrix was an eclectic process. It drew on diverse sources and research processes. Central to the development was an extensive review of the literature. ACE staff were quick to contribute to this process. Much of the material reviewed was already informing the work and professional development of individual colleagues. Existing ‘best practice’ was also tapped with in-house documents being sourced as appropriate. National professional material (Teacher Registration Board 1994), as well as feedback generated in reflective discussion among colleagues, staff and students also played a key role (Lomas et al 1996). An early form of the matrix, 3

November 1995, is shown in Figure 2 and reflects the incipient nature of the thinking at this stage of its development. Within a month column and row headings had evolved to embrace domains and elements rather than sources as the richness of input and robustness of debate shaped our thinking.

*Figure 2: Initial sources arranged as column headings of an embryonic matrix*

<b>QUALSET; SELECTED UNIT STANDARDS</b> Note: small text inclusion are unit standards within each domain which were endorsed by >4 of 6 groups representing Teacher Education establishments in NZ (Oct 95)	<b>ACE; PTE GENERIC SKILLS PROFILE</b> Note: does not include content outcomes as these were seen as specific to units for this exercise.	<b>FROM GORDON FULCHER “A New Initiative in Teacher Training in the UK” 1993. Appendix B; Competencies Expected of Newly Qualified Teachers</b>	<b>FROM MINISTERIAL ADVISORY COUNCIL ON TEACHER EDUCATION AND QUALITY OF TEACHING “Desirable Attributes for Beginning Teachers” NSW 1994</b>	<b>FROM TEACHER REGISTRATION BOARD Information Leaflet “A Satisfactory Teacher” July 1994</b>
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The end-notes provided with the matrix give indications of the origins and derivations of many items. Others were generated or ‘synthesised’ by the degree development’s overseeing ‘steering group’ and often modified during consultative debate with stakeholders. An examination of the full text of the matrix provided in Appendix One, particularly with reference to the use of footnotes and cross references will highlight the origins and nature of the document.

## Conclusion

Commentary on the matrix has been diverse, animated and overwhelmingly positive. For example, Professor Christine Deer (Head of Teacher Education; Sydney University of Technology) has labelled it “most impressive. (Showing) how the new degree has been planned as an integrated whole and not just as a collection of separate subjects... (and) how links are to be made across the modules by its coherent approach.”

John Dwyfor Davies (Director of Studies, Faculty of Education, University of the West of England, Bristol) has labelled the “highly developed matrix... exemplary.”

Equally importantly, at a grass roots level, practising teachers who have traditionally found it difficult to articulate the complexity and demands of their work, have described the matrix as a uniquely detailed presentation of what quality teaching involves. They see it as presenting the case why teachers deserve quality professional “education” with associated recognition as high status professionals.

Within the programme itself the matrix has proved both robust and credible. It serves to underpin debate and discussion as new modules are developed, consultation is widened, and a new national landscape is forged for teacher education.

As staff and students alike reflect on their respective performance and achievements in the BEd(Tchg) the matrix provides both structure and benchmarks. It provides both a backbone for current developments and a launch-pad for future innovation.

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**APPENDIX 1****ENDNOTES FOR THE MATRIX OF THE DIMENSIONS OF TEACHER EDUCATION**

- 1 Interstate New Teacher Assessment and Support Consortium (INTASC) draft, **Model Standards for Beginning Teacher Licensing and Development: A Resource for State Dialogue.**
- 2 Links with 1.2 and 2.2 (see next footnote) to develop a broadly based understanding including principles or organisation, methods of enquiry etc refer Grossman as per footnote 9 below.
- 3 Wilson, S.M., Schulman, L.S., and Richert, A.E. (Eds) (1987), **Exploring Teachers' Thinking.** Cassel Education Ltd, London.
- 4 Fulcher, G. (1993), **A New Initiative in Teacher Training in the UK.** Appendix B.
- 5 Ministerial Advisory Council on Teacher Education and Quality of Teaching, **Desirable Attributes for Beginning Teachers,** NSW 1994.
- 6 Relates to the common principles and foundations which cut across speciality areas and which all teachers should share as a basis for communication and collaboration; see **INTASC (op cit, p 2).**
- 7 As distinct from “decontextualised knowledge” this implies a form of “situated cognition”, founded in both theory and experience, whereby the acquisition of knowledge is underpinned and illustrated by structured observation and other experience in the professional setting. See Hennessy, S., “Situated Cognition and Cognitive Apprenticeship: Implications for Classroom Learning” **Studies in Science Education,** Volume 22 (1993) (pp 1-41).
- 8 National Board for Professional Teaching Standards (NBPTS) in Educational Testing Service's, **A Comparative View; NBTS, Teacher Performance Assessments,** INTASC (see 1 above).
- 9 Grossman, P.L. et al, Teachers of Substance: subject matter knowledge for teaching in Reynolds, M. (ed), **Knowledge Base for Beginning Teachers,** New York, Pergammon.
- 10 Snook, I., **Teacher Education; a Sympathetic Appraisal.** Keynote address to Conference Teacher Education; an Investment for New Zealand's Future, ACE, 18-19 June 1992, (p 23).

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- 11 National Board for Professional Teaching Standards (NBPTS) in Educational Testing Service's, **A Comparative View; NBPTS, Teacher Performance Assessments, INTASC (Op Cit) and National Association of State Directors of Teacher Education and Certification (NASDTEC)**, (1995). Provided by Marie Cameron on return from a Fullbright Scholarship to the USA October 1995.
  - 12 Schon, D. (1983) **The Reflective Practitioner: how professionals think in action**, New York, Basic Books.
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  - 15 Haberman, M. (1995) **Op cit**.
  - 16 **Ibid**.
  - 17 Snook, I. (1992) **Op cit**.
  - 18 Haberman, M. (1995) **Op cit**.
  - 19 From ACE **Generic Skills Profile**, prepared by a working group convened by PTE Assessment Committee 1991.
  - 20 Teacher Registration Board, (1994) **Information About Teacher Registration in Aotearoa, New Zealand**. Handbook. TRB see particularly pp 14-15.
  - 21 **Ibid**.
  - 22 Haberman (1995) **Op cit**.
  - 23 Gibbs, C. & Aitken, G., **Qualification Standards for Education in Teaching, Endorsed Unit Standard Titles for Qualifications in Primary and Secondary Teacher Education**. (Updated 24 April 1995), see also NZQA definition of research especially Holborow, L.C., **Further Paper Concerning the Definition of Research**, Tertiary Advisory Group Working Paper, 20 October 1995.
  - 24 Crooks, T., **Principles to Guide Assessment Practice**. Paper from Higher Education Development Centre, University of Otago, September 1993.
  - 25 Gibbs, C. and Aitken, G., 1995 (**Op cit**).

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- 26 Bennett, N., "The Effective Primary School Teacher: The Search for a Theory of Pedagogy" **Teaching and Teacher Education**. Volume 4, No. 1 (1988) (pp 19-30).
- 27 Gibbs, C. and Aitken, G., 1995 (**Op cit**) refer also "Creates Learning Opportunities" for examples.
- 28 **Ibid**, see Shapes the Learning Environment.
- 29 Haberman, M., 1995 (**Op cit**).
- 30 **Ibid**.
- 31 **Ibid**.
- 32 **Ibid**.
- 33 Ministerial Advisory Council on Teacher Education and Quality of Teaching, **Op cit**.
- 34 **Ibid**.
- 35 Edwards, J. referring to Kerwin, A. and Witte et al in "Thinking Education and Human Potential" (1993), a paper presented at ACE from Edwards, J. (ed), **Thinking: International Interdisciplinary Perspectives**, Melbourne, Australia: Hawker Brownlow Education (1994). See also Edwards, J., "Rediscovering Ignorance", **Research in Science Education**, (1990) (p 20).
- 36 Ministerial Advisory Council on Teacher Education and Quality of Teaching, **Op cit**.



## Seizing the Opportunity

### Part IV : Developing the Shape and Structure of the Degree of Bachelor of Education (Teaching)

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#### Introduction

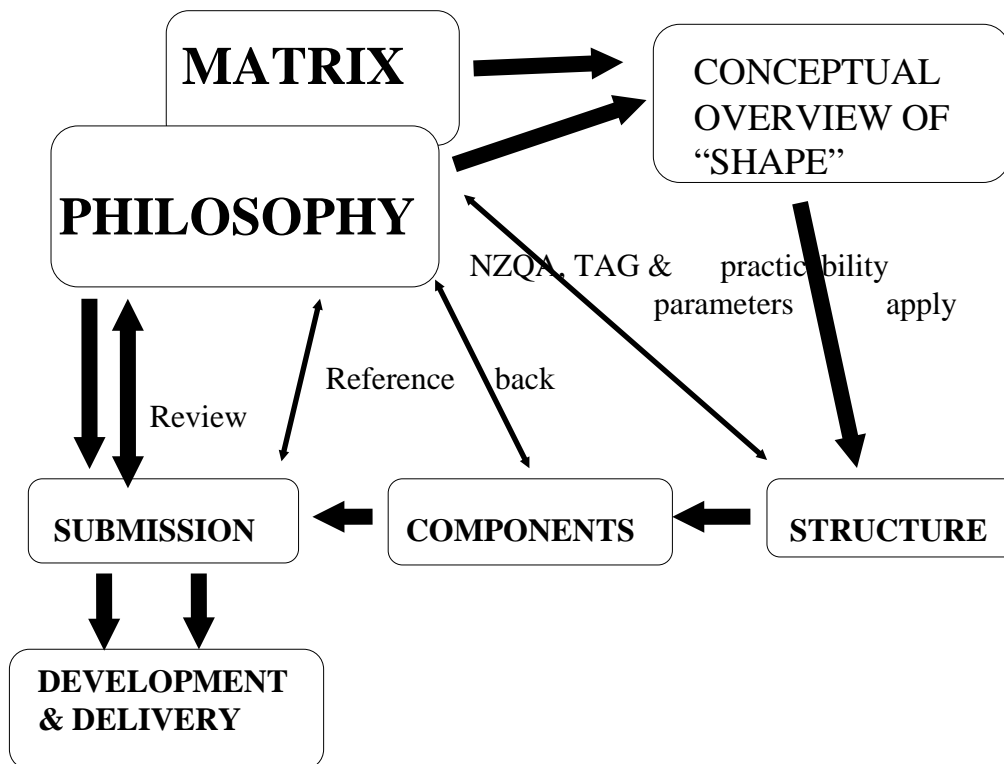
This paper deals with the shape and underlying structure of the first three year Bachelors Degree in teacher education accredited in New Zealand. The key elements of the development of the degree were a statement of philosophy and the identification of outcomes for a professional degree in teaching. In the fashioning of these, the initial priority was to conduct a review both of current practice and of recent and relevant literature. Preliminary consultations with staff and community representatives were undertaken to inform the core group leading the development.

As the development proceeded, a paper entitled *The Profile of the ACE Graduate* was produced. This paper was later distilled into a draft philosophy statement that paralleled the development of the matrix of the dimensions of teacher education. As the form and content of the matrix became clearer, this in turn, enabled the writing of the definitive philosophy statement.

By similar processes, building on an initial 'trawl' through the literature and supplemented by staff and broader community responses to a call for references and principles, the matrix of the dimensions of teacher education emerged. These two elements provided the basis for shaping the degree programme as shown in Figure 1.

## Shaping the Degree Programme

Figure 1: *Shaping the degree programme*



The philosophy that emerged from ongoing dialogue underpinned the creation of a matrix of the dimensions of teacher education upon which the degree is structured. In terms of the student experience, the shape of the programme of study is organised across three strands (see Figure 2) representing the essential professional base which the matrix represents in four domains. These strands are interdependent and the absence or isolation of one would negate the others. The strands are professional education and knowledge; curriculum knowledge and practice; and professional inquiry and practice. As the proposal document states, “[a] professional teacher education degree programme demands the unique and combined contribution of all three strands” (Auckland College of Education, 1996).

Figure 2 (overleaf): *Conceptual Overview of Shape of Degree*



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Notwithstanding the reflexive overlaps and linkages between the strands, as shown in Figure 2, each has distinctive features. The professional education and knowledge strand encompasses areas of study that develop students' professional knowledge of a generic nature rather than that of a curricular specific nature. As such, it includes education, information technology, tikanga Maori and Pasifika. The curriculum knowledge and practice strand deals with the National Curriculum and the documents associated with the designated seven essential learning areas as well as the early childhood area. Delivery here focuses on a knowledge and understanding of the documents, the subject discipline(s) and the classroom and early childhood centre practices relating to these. Professional inquiry and practice stands as the central strand, a crucial acknowledgment that practice is essential for a graduate teacher who, on exit from the programme, is adequately prepared to begin (the practice of) teaching with suitable guidance - that is, to enter into a professional internship. The designed overlaps and linkages between the strands ensure that practice is informed by and, in turn, informs the "knowledge, concepts, skills and understandings" gained in generic and curricular areas while the central strand develops the "capacity to theorize practice and practise theory reflectively" (*ibid*).

### **Designing the Structure**

Within the three strands, the components of the degree programme are modules with attached New Zealand Qualifications Authority credit values and assigned appropriate National Qualifications Framework levels. Thus, although the modules are not directly derived from the teacher education unit standards, they are linked to that reference framework (of domains). The modules are the method of delivery of the seventeen dimensions of the teacher education matrix (See Windross and Lomas, 1998) with different and coincident dimensional elements being evident in the range of modules. The integrated nature of the programme, however, ensures that distribution of matrix dimensional elements across the three strands is harmonized to guarantee coverage appropriately sequenced over the semesters and years of the programme. There is also a significant degree of commonality in curriculum knowledge and practice modules at National Qualifications Framework Levels 5 and



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6. This is partly achieved by all curriculum focused modules having a core number of common matrix elements, e.g. referring to subject discipline knowledge. The module structure details the links between matrix elements and associated learning outcomes and thus the basis of delivery and assessment for each module is established.

Before module outlines could be written the structure of the degree had to be determined, at least skeletally, in terms of the plan of the programme of study. At this stage, the reference points were the matrix, a diagram depicting the interrelatedness of the strands and the philosophy statement. Taking on board the teaching communities concern to address curriculum areas and teaching practice in greater depth, the weighting on these was significantly increased compared to the previous conjoint degree programme.

Figure 3 : Comparison to Previous Programmes by Credit Allocation

**Bachelor of Education/Diploma of Teaching Programme - 4 years**

AREA OF FOCUS	TOTAL CREDITS POINTS	PERCENTAGE OF PROGRAMMES
BEd/Diploma in total	56	
Professional Practice incl Teaching Experience	6	10.7%
Curriculum Studies	22	39.2%

**Bachelor of Education (Teaching) - 3 years**

AREA OF FOCUS	TOTAL CREDITS POINTS	PERCENTAGE OF PROGRAMMES
BEd (Tchg) in total	360	
Professional Inquiry and Practice incl Teaching Experience	96	26.7%
Curriculum Studies	192	53.3%
Curriculum Knowledge and Practice including Pasifika, Tikanga Maori, and Information Technology modules	224	62.2%

Figure 3 shows the weighting on curriculum, by credit values, in the previous conjoint programme and the proposed new degree. Comparing the two degree programmes; the conjoint BEd with the new BEd (Tchg) we see a significant increase from 39.2% to 53.3% on curriculum specific credits and from 14.3% to 26.7% on teaching practice. Within the parameter set by such weightings the heads of centres consulted with colleagues in each of the essential learning areas and education studies, and then conferred as a group. The detail of how each quantum of credits would be used in each area was established. The result is shown in Figure 4.

Figure 4 : Composition of the degree programme by credit value.

<b>Professional Education and Knowledge (PEK)</b>		<b>Professional Inquiry and Practice (PIP)</b>		<b>Curriculum Knowledge and Practice (CKP)</b>	
Education	40	Professional Inquiry	44	Language and Languages	32
Information Technology	8	Practicum	44	Mathematics	24
Tikanga Maori	16	Research Methods	8	The Arts	32
Pasifika	8			Health and Physical Education	24*
				Science	16*
				Technology	16*
				Social Sciences	16*
				*Plus one 8 credit elective chosen from one of these areas.	8
<b>Total</b>	<b>72</b>	<b>Total</b>	<b>96</b>	<b>Total</b>	<b>168</b>
<b>PLUS OPTIONAL MODULES TALLING 24 CREDITS</b>					<b>24</b>
<i>(ie Three further 8 credit modules selected from the PEK or CKP strands above.)</i>					
<b>OVERALL CREDIT TOTAL</b>					<b>360</b>

*Note: The bulk of the programme consists of compulsory modules with only 4 optional modules worth 32 credits.*

## Summary

The shape of the degree was largely determined by the way in which the development was approached. Issues of structure and detail were deliberately excluded until the overarching philosophy and matrix of dimensions were confirmed. This approach avoided the usual practice whereby details of existing custom and practice influenced or dominated innovation. The structure and detail flowed from a conceptual overview stemming from principles and philosophy.

The matrix was developed and refined through vigorous dialogue. This resulted in an increasingly clear articulation of philosophy. Using the matrix and underpinning philosophy as a basis the shape, structure and detail of modules, within the degree structure, was set. Detailed module writing then proceeded with direct reference to the domains and dimensions of the matrix. Indeed, the central plank of the actual programme of study is the matrix of the dimensions of teacher education, which is the touchstone for all modules. On this basis we kept faith with our philosophy and fundamental principles we have established for the ACE brand of teacher education.

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